

# STIC Search Report

## Biotech-Chem Library

STIC Database Tracking Number: 125100

**TO:** Marina Lamm  
**Location:** 4a31 / 4c70  
**Monday, June 21, 2004**  
**Art Unit:** 1616  
**Phone:** 272-0618  
**Serial Number:** 10 / 665857

**From:** Jan Delaval  
**Location:** Biotech-Chem Library  
**Rem 1A51**  
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### Search Notes

=> fil reg  
FILE 'REGISTRY' ENTERED AT 09:08:48 ON 21 JUN 2004  
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STRUCTURE FILE UPDATES: 20 JUN 2004 HIGHEST RN 696584-79-9  
DICTIONARY FILE UPDATES: 20 JUN 2004 HIGHEST RN 696584-79-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

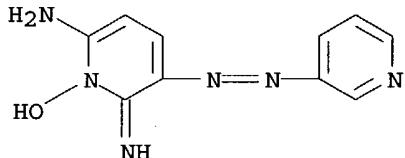
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conducting SmartSELECT searches.

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Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d 13 ide can

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 262853-28-1 REGISTRY  
CN 2-Pyridinamine, 1,6-dihydro-1-hydroxy-6-imino-5-(3-pyridinylazo)- (9CI)  
(CA INDEX NAME)  
FS 3D CONCORD  
MF C10 H10 N6 O  
SR CA  
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL  
DT.CA Caplus document type: Patent  
RL.P Roles from patents: BIOL (Biological study); USES (Uses)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 132:255751

=> fil hcaplus  
FILE 'HCAPLUS' ENTERED AT 09:09:08 ON 21 JUN 2004  
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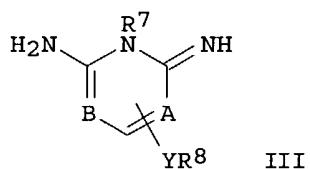
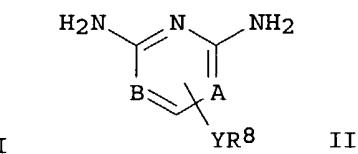
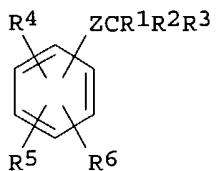
FILE COVERS 1907 - 21 Jun 2004 VOL 140 ISS 26  
 FILE LAST UPDATED: 20 Jun 2004 (20040620/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L5 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:227938 HCAPLUS  
 DN 132:255751  
 ED Entered STN: 07 Apr 2000  
 TI Hair growth stimulant  
 IN Damm, Peter; Noser, Friedrich; Schweickert, Rainer; Heinrich, Hans; Reinemund, Eva  
 PA Wella A.-G., Germany  
 SQ Ger. Offen., 8 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 IC ICM A61K007-06  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19845202	A1	20000406	DE 1998-19845202	19981001
	WO 2000019969	A1	20000413	WO 1999-EP6269	19990826
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	AU 9959709	A1	20000426	AU 1999-59709	19990826
	EP 1117373	A1	20010725	EP 1999-970016	19990826
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	BR 9914101	A	20010731	BR 1999-14101	19990826
	JP 2002526392	T2	20020820	JP 2000-573331	19990826
	EP 1426034	A1	20040609	EP 2004-4305	19990826
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	US 6488922	B1	20021203	US 2001-744892	20010131
	US 2003031639	A1	20030213	US 2002-159310	20020531
	US 6667028	B2	20031223		
	US 2004062736	A1	20040401	US 2003-665857	20030919
PRAI	DE 1998-19845202	A	19981001		
	EP 1999-970016	A3	19990826		
	WO 1999-EP6269	W	19990826		
	US 2001-744892	A3	20010131		
	US 2002-159310	A3	20020531		
OS	MARPAT 132:255751				
GI					



AB Agents for promotion of hair growth or diminution of androgenic hair loss contain the aromatic compds. I, II, and/or III [A, B = CH, N;  $\geq 1$  or A, B = CH; Y = O, (CH<sub>2</sub>)<sub>n</sub>, NHCH<sub>2</sub>, CH<sub>2</sub>NH, N:N, CH:CH, CH<sub>2</sub>O, OCH<sub>2</sub>, N:CH, CH:N, (CH<sub>2</sub>CH<sub>2</sub>O)<sub>m</sub>, (OCH<sub>2</sub>CH<sub>2</sub>)<sub>m</sub>; m, n = 1-4; Z = NHCH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>, CH:CH, CH<sub>2</sub>NH; R<sub>1</sub> = H, OH, C<sub>1-4</sub> hydroxyalkyl; R<sub>2</sub> = H, cyclopropyl, C<sub>1-4</sub> alkyl; R<sub>3</sub> = C<sub>1-2</sub> hydroxyalkyl, halomethyl, Ac, CF<sub>3</sub>, Me, substituted aryl; R<sub>4</sub>-R<sub>6</sub> = H, NO<sub>2</sub>, CF<sub>3</sub>, CHF<sub>2</sub>, F, Cl, Br; R<sub>7</sub> = OH, OSO<sub>3</sub>H, C<sub>1-4</sub> alkyl, C<sub>2-6</sub> hydroxyalkenyl, aryl, heteroaryl, C<sub>2-6</sub> alkenylcarboxylic acid]. Thus, a hair tonic contained 1-[N-(2'-nitro-4'-trifluoromethylphenyl)aminolpropane-2,3-diol 0.4, Cremophor RH 60 0.2, perfume oil 0.3, cetyl alc. 0.5, and H<sub>2</sub>O to 100.0 g.

ST arom hair growth promoter; phenylaminopropanediol hair growth promoter  
IT Hair preparations

(growth stimulants; hair growth stimulant)

IT Aromatic compounds

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(hair growth stimulant)

IT Alopecia

(prevention of; hair growth stimulant)

IT 71-43-2D, Benzene, derivs., biological studies 110-86-1D, Pyridine, derivs., biological studies 289-95-2D, Pyrimidine, derivs. 28365-08-4 104333-00-8 262853-25-8 262853-26-9 262853-27-0 262853-28-1

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(hair growth stimulant)

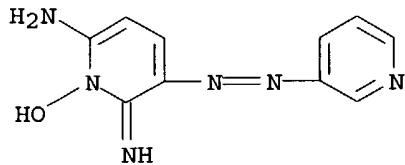
IT 262853-28-1

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(hair growth stimulant)

RN 262853-28-1 HCAPLUS

CN 2-Pyridinamine, 1,6-dihydro-1-hydroxy-6-imino-5-(3-pyridinylazo)- (9CI) (CA INDEX NAME)



=> fil uspatall  
 FILE 'USPATFULL' ENTERED AT 09:09:20 ON 21 JUN 2004  
 CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 09:09:20 ON 21 JUN 2004  
 CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs hitstr tot 16

L6 ANSWER 1 OF 4 USPATFULL on STN  
 AN 2004:82287 USPATFULL  
 TI Hair growth promoter  
 IN Damm, Peter, Olpe, GERMANY, FEDERAL REPUBLIC OF  
 Noser, Friedrich, Bonnefontaine, SWITZERLAND  
 Schweickert, Rainer, Griesheim, GERMANY, FEDERAL REPUBLIC OF  
 Heinrich, Hans, Viernheim, GERMANY, FEDERAL REPUBLIC OF  
 Reinemund, Eva, Hirschberg, GERMANY, FEDERAL REPUBLIC OF  
 PI US 2004062736 A1 20040401  
 AI US 2003-665857 A1 20030919 (10)  
 RLI Division of Ser. No. US 2002-159310, filed on 31 May 2002, GRANTED, Pat.  
 No. US 6667028 Division of Ser. No. US 2001-744892, filed on 31 Jan  
 2001, GRANTED, Pat. No. US 6488922  
 PRAI DE 1998-19845202 19981001  
 DT Utility  
 FS APPLICATION  
 LREP STRIKER, STRIKER & STENBY, 103 East Neck Road, Huntington, NY, 11743  
 CLMN Number of Claims: 11  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 488

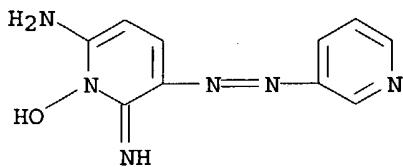
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to an agent for promoting the growth of hair and decreasing hair fall-out containing compounds of formulas (I), (II) and/or (III) ##STR1##

a method for reducing the loss of hair and for promoting the growth of hair by using this agent and to the use of the compounds of formulas (I), (II) and/or (III) for promoting hair growth and/or reducing androgenic loss of hair.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 262853-28-1  
 (hair growth stimulant)  
 RN 262853-28-1 USPATFULL  
 CN 2-Pyridinamine, 1,6-dihydro-1-hydroxy-6-imino-5-(3-pyridinylazo)- (9CI)  
 (CA INDEX NAME)

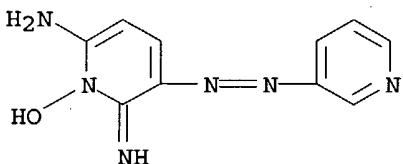


L6 ANSWER 2 OF 4 USPATFULL on STN  
 AN 2003:44330 USPATFULL  
 TI Hair growth promoter  
 IN Damm, Peter, Olpe, GERMANY, FEDERAL REPUBLIC OF  
     Noser, Friedrich, Bonnefontaine, SWITZERLAND  
     Schweickert, Rianer, Griesheim, GERMANY, FEDERAL REPUBLIC OF  
     Heinrich, Hans, Viernheim, GERMANY, FEDERAL REPUBLIC OF  
     Reinemund, Eva, Hirschberg, GERMANY, FEDERAL REPUBLIC OF  
 PI US 2003031639 A1 20030213  
     US 6667028 B2 20031223  
 AI US 2002-159310 A1 20020531 (10)  
 RLI Division of Ser. No. US 2001-744892, filed on 31 Jan 2001, PENDING A 371  
     of International Ser. No. WO 1999-EP6269, filed on 26 Aug 1999, UNKNOWN  
 PRAI DE 1998-19845202 19981001  
 DT Utility  
 FS APPLICATION  
 LREP STRIKER, STRIKER & STENBY, 103 East Neck Road, Huntington, NY, 11743  
 CLMN Number of Claims: 11  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 481  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to an agent for promoting the growth of  
     hair and decreasing hair fall-out containing compounds of formulas (I),  
     (II) and/or (III) ##STR1##  
     a method for reducing the loss of hair and for promoting the growth of  
     hair by using this agent and to the use of the compounds of formulas  
     (I), (II) and/or (III) for promoting hair growth and/or reducing  
     androgenic loss of hair.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 262853-28-1  
     (hair growth stimulant)  
 RN 262853-28-1 USPATFULL  
 CN 2-Pyridinamine, 1,6-dihydro-1-hydroxy-6-imino-5-(3-pyridinylazo)- (9CI)  
     (CA INDEX NAME)



L6 ANSWER 3 OF 4 USPATFULL on STN  
 AN 2002:317145 USPATFULL  
 TI Hair growth promoter  
 IN Damm, Peter, Olpe, GERMANY, FEDERAL REPUBLIC OF  
     Noser, Friedrich, Bonnefontaine, SWITZERLAND

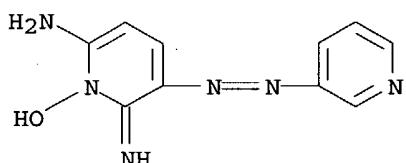
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 Heinrich, Hans, Viernheim, GERMANY, FEDERAL REPUBLIC OF  
 Reinemund, Eva, Hirschberg, GERMANY, FEDERAL REPUBLIC OF  
 Wella Aktiengesellschaft, Darmstadt, GERMANY, FEDERAL REPUBLIC OF  
 (non-U.S. corporation)  
 PI US 6488922 B1 20021203  
 WO 2000019969 20000413  
 AI US 2001-744892 20010131 (9)  
 WO 1999-EP6269 19990826  
 PRAI DE 1998-19845202 19981001  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Dees, Jose' G.; Assistant Examiner: Lamm, Marina  
 LREP Striker, Michael J.  
 CLMN Number of Claims: 12  
 ECL Exemplary Claim: 1  
 DRWN 0 Drawing Figure(s); 0 Drawing Page(s)  
 LN.CNT 440

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The method for promoting hair growth and/or reducing hair loss includes  
 providing a certain agent for reducing hair loss and/or promoting hair  
 growth, applying an effective amount of the agent to hair and scalp,  
 after applying the agent massaging the scalp for one to five minutes and  
 leaving the agent on the hair and the scalp for at least 24 hours. The  
 agent includes a compound of the formulae (I), (II) and/or (III):  
 ##STR1##  
 or a physiologically compatible salt or salts thereof, as effective  
 ingredient.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 262853-28-1  
 (hair growth stimulant)  
 RN 262853-28-1 USPATFULL  
 CN 2-Pyridinamine, 1,6-dihydro-1-hydroxy-6-imino-5-(3-pyridinylazo)- (9CI)  
 (CA INDEX NAME)



L6 ANSWER 4 OF 4 USPAT2 on STN  
 AN 2003:44330 USPAT2  
 TI Hair growth promoter  
 IN Damm, Peter, Olpe, GERMANY, FEDERAL REPUBLIC OF  
 Noser, Friedrich, Bonnefontaine, SWITZERLAND  
 Schweickert, Rainer, Griesheim, GERMANY, FEDERAL REPUBLIC OF  
 Heinrich, Hans, Viernheim, GERMANY, FEDERAL REPUBLIC OF  
 Reinemund, Eva, Hirschberg, GERMANY, FEDERAL REPUBLIC OF  
 Wella Aktiengesellschaft, Darmstadt, GERMANY, FEDERAL REPUBLIC OF  
 (non-U.S. corporation)  
 PI US 6667028 B2 20031223  
 AI US 2002-159310 20020531 (10)  
 RLI Division of Ser. No. US 744892, now patented, Pat. No. US 6488922  
 PRAI DE 1998-19845202 19981001  
 DT Utility  
 FS GRANTED

EXNAM Primary Examiner: Hartley, Michael G.; Assistant Examiner: Lamm, Marina  
 LREP Striker, Michael J.  
 CLMN Number of Claims: 8  
 ECL Exemplary Claim: 1  
 DRWN 0 Drawing Figure(s); 0 Drawing Page(s)  
 LN.CNT 455

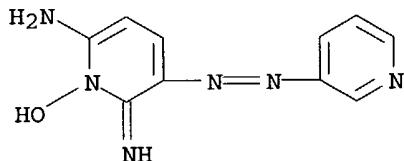
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The method for promoting hair growth and/or reducing hair loss includes providing a certain agent for reducing hair loss and/or promoting hair growth, applying an effective amount of the agent to hair and scalp, after applying the agent massaging the scalp for one to five minutes and leaving the agent on the hair and the scalp for at least 24 hours. The agent includes a compound of the formulae (I), (II) and/or (III):  
 ##STR1##

or a physiologically compatible salt or salts thereof, as effective ingredient.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 262853-28-1  
 (hair growth stimulant)  
 RN 262853-28-1 USPAT2  
 CN 2-Pyridinamine, 1,6-dihydro-1-hydroxy-6-imino-5-(3-pyridinylazo)- (9CI)  
 (CA INDEX NAME)



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STRUCTURE FILE UPDATES: 20 JUN 2004 HIGHEST RN 696584-79-9  
 DICTIONARY FILE UPDATES: 20 JUN 2004 HIGHEST RN 696584-79-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

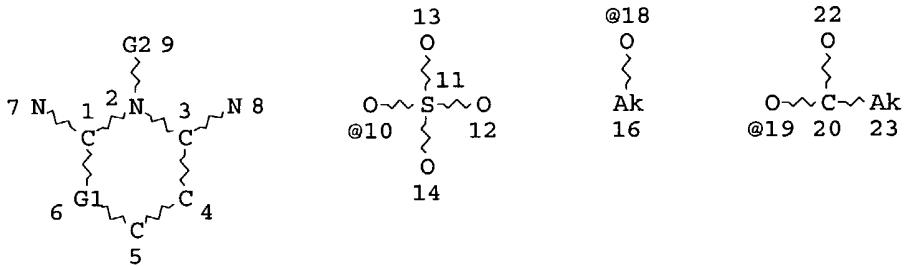
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sta que 122  
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262853-28-1/BI OR 28365-08-4/BI OR 289-95-2/BI OR 71-43-2/BI)  
 L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON L2 AND C10H10N6O  
 L9 STR



C @25 N @24

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 VAR G2=0/10/18/19

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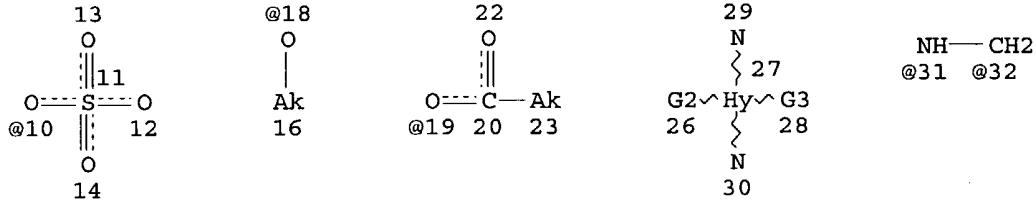
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 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 1  
 NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L11 356 SEA FILE=REGISTRY CSS FUL L9  
 L12 STR



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 @33 @34 @35 @36 @37 38 @39 40 @41 42 43

CH<sub>2</sub>—CH<sub>2</sub>—CH<sub>2</sub>—CH<sub>2</sub> N~~~N O—CH<sub>2</sub>—CH<sub>2</sub>  
 @44 45 46 47 @48 49 @50 51 @52

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 VAR G3=O/CH<sub>2</sub>/39/41/44/48/37/33/34/32/31/35/36/50/52

NODE ATTRIBUTES:

CONNECT IS X4 RC AT 27  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 38

STEREO ATTRIBUTES: NONE

L16 69 SEA FILE=REGISTRY SUB=L11 SSS FUL L12  
L17 STR

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  14      30

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Ak—OH  
@54 55

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 59
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  ||| Ak---O
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REP G3=(1-12) A

VAR G4=AK/54/CY/57

NODE ATTRIBUTES:

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CONNECT IS M1 RC AT 60

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

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L21 1 SEA FILE=REGISTRY ABB=ON PLU=ON L20 AND C6H10N4O  
L22 43 SEA FILE=REGISTRY ABB=ON PLU=ON (L19 OR L21) NOT L3

=&gt; d his

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L2 9 S E1-E9  
L3 1 S L2 AND C10H10N6O  
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L5 1 S L3FILE 'USPATFULL, USPAT2' ENTERED AT 09:08:28 ON 21 JUN 2004  
L6 4 S L3

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FILE 'USPATFULL, USPAT2' ENTERED AT 09:09:20 ON 21 JUN 2004

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 L8 22 S L7 CSS SAM  
 L9 STR L7  
 L10 17 S L9 CSS  
 L11 356 S L9 CSS FUL  
       SAV L11 LAMM665/A  
 L12 STR L9  
 L13 0 S L11 AND C2H4O  
 L14 0 S L11 AND C3H6O  
 L15 2 S L12 SAM SUB=L11  
 L16 69 S L12 FUL SUB=L11  
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 L19 43 S L17 CSS FUL SUB=L16  
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L23 0 S L22

FILE 'HCAPLUS' ENTERED AT 09:44:10 ON 21 JUN 2004

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       E DAMM P/AU  
 L26 0 S E3-E5,E7 AND L24  
       E NOSER F/AU  
 L27 0 S E3-E5 AND L24  
       E SCHWEICKERT R/AU  
 L28 0 S E3-E5 AND L24  
       E HEINRICH H/AU  
 L29 0 S E3-E11,E13-E20 AND L24  
       E REINEMUND E/AU  
 L30 0 S E4 AND L24  
 L31 24 S L24 AND (PY<=1999 OR PRY<=1999 OR AY<=1999)  
 L32 24 S L24 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)  
 L33 25 S L24,L31,L32  
 L34 9 S L33 AND HAIR  
       E HAIR/CT  
       E E3+ALL  
 L35 1 S L33 AND E6,E5+NT  
       E E15+ALL  
 L36 8 S L33 AND E13,E12+NT  
       E E15+ALL  
       E E16+ALL  
 L37 0 S L33 AND E6  
       E E8+ALL  
       E E19+ALL  
 L38 8 S L33 AND E7,E6+NT  
       E E16+ALL  
       E E20+ALL  
 L39 0 S L33 AND E4  
       E E6+ALL  
       E E17+ALL  
 L40 5 S L33 AND E2+NT

L41 8 S L33 AND (ALOPEC? OR BALD OR BALDNESS OR BALDING)  
 L42 1 S L33 AND SHAMPOO  
 L43 9 S L34-L42  
 L44 8 S L33 AND (COSMETIC#/SC,SX,CW,BI OR COS/RL)  
 L45 10 S L43,L44  
 L46 15 S L33 NOT L45

FILE 'REGISTRY' ENTERED AT 09:51:15 ON 21 JUN 2004

=> fil hcaplus  
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FILE COVERS 1907 - 21 Jun 2004 VOL 140 ISS 26  
 FILE LAST UPDATED: 20 Jun 2004 (20040620/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L45 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:661059 HCAPLUS  
 DN 125:284387  
 ED Entered STN: 09 Nov 1996  
 TI Cosmetic compositions containing 6-substituted pyrimidine derivatives as an activator and/or stabilizer of cyclooxygenase  
 IN Michelet, Jean-Francois; Mahe, Yann; Bernard, Bruno  
 PA Oreal S. A., Fr.  
 SO Eur. Pat. Appl., 10 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC ICM A61K031-505  
 CC 62-4 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 736300	A2	19961009	EP 1996-400601	19960321 <--
	EP 736300	A3	19961106		
	EP 736300	B1	20030305		
	R: DE, ES, FR, GB, IT				
	FR 2732597	A1	19961011	FR 1995-4049	19950405 <--
	FR 2732597	B1	19970516		
	ES 2194083	T3	20031116	ES 1996-400601	19960321 <--
	CA 2173544	AA	19961006	CA 1996-2173544	19960404 <--
	CA 2173544	C	19991005		
	US 5756092	A	19980526	US 1996-628473	19960405 <--
PRAI	FR 1995-4049	A	19950405 <--		

AB The title compns. are used for the treatment of skin disorders such as eczema, erythema and psoriasis. Thus, a solution of 5 mM 2,4-diamino-6-piperidinopyrimidine-3-oxide (I) increased the cyclooxygenase activity of prostaglandin-endoperoxide synthase in oxidation of arachidonic acid by 58%. A lotion contained I 0.025, ethanol 30, and water q.s. 100 g.

ST cosmetic pyrimidine deriv cyclooxygenase activator stabilizer; lotion skin disorder pyrimidine deriv

IT Blood coagulation  
Eczema  
Erythema  
Pruritus  
Psoriasis  
Urticaria  
(cosmetic compns. containing substituted pyrimidine derivs. as activator and/or stabilizer of cyclooxygenase)

IT Cosmetics  
(antiaging, cosmetic compns. containing substituted pyrimidine derivs. as activator and/or stabilizer of cyclooxygenase)

IT Cosmetics  
(creams, cosmetic compns. containing substituted pyrimidine derivs. as activator and/or stabilizer of cyclooxygenase)

IT Mast cell  
(disease, mastocytosis, systemic, cosmetic compns. containing substituted pyrimidine derivs. as activator and/or stabilizer of cyclooxygenase)

IT Cosmetics  
(lotions, cosmetic compns. containing substituted pyrimidine derivs. as activator and/or stabilizer of cyclooxygenase)

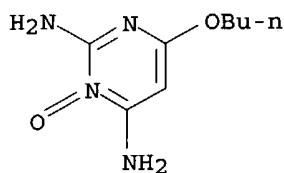
IT 24867-26-3, 2,4-Diamino-6-piperidinopyrimidine 38304-91-5,  
2,4-Diamino-6-piperidinopyrimidine-3-oxide 128304-90-5  
130183-36-7 146234-12-0 146234-14-2 146234-19-7  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(cosmetic compns. containing substituted pyrimidine derivs. as activator and/or stabilizer of cyclooxygenase)

IT 39391-18-9, Cyclooxygenase 39391-18-9, Prostaglandin-endoperoxide synthase  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(cosmetic compns. containing substituted pyrimidine derivs. as activator and/or stabilizer of cyclooxygenase)

IT 128304-90-5  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(cosmetic compns. containing substituted pyrimidine derivs. as activator and/or stabilizer of cyclooxygenase)

RN 128304-90-5 HCPLUS

CN 2,4-Pyrimidinediamine, 6-butoxy-, 3-oxide (9CI) (CA INDEX NAME)



DN 117:137681  
 ED Entered STN: 04 Oct 1992  
 TI Multicomponent pharmaceutical or kit for the preparation of the  
 sulfoconjugated forms of pyridino-, pyrimidino- or triazino-N-oxides  
 IN Gaetani, Quintino; Rougier, Andre; Duranton, Albert; Hocquaux, Michel  
 PA Oreal S. A., Fr.  
 SO Eur. Pat. Appl., 13 pp.  
 CODEN: EPXXDW

DT Patent  
 LA French  
 IC ICM A61K031-505  
 ICS A61K031-53; A61K031-445  
 CC 63-6 (Pharmaceuticals)  
 Section cross-reference(s): 28, 62

## FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 494005	A1	19920708	EP 1991-403479	19911220 <--
	EP 494005	B1	19970205		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE				
	FR 2671082	A1	19920703	FR 1990-16504	19901228 <--
	FR 2671082	B1	19930416		
	US 5360804	A	19941101	US 1991-805943	19911212 <--
	AT 148629	E	19970215	AT 1991-403479	19911220 <--
	ES 2097198	T3	19970401	ES 1991-403479	19911220 <--
	CA 2058471	AA	19920629	CA 1991-2058471	19911227 <--
	JP 04308576	A2	19921030	JP 1991-357989	19911227 <--
	JP 3115072	B2	20001204		
PRAI	FR 1990-16504	A	19901228	<--	

OS MARPAT 117:137681

AB The title invention comprise a pyridino-, pyrimidino- or triazino-N-oxide and a sulfating agent. Thus, citric acid 10, Na<sub>2</sub>HCO<sub>3</sub> 15, SO<sub>3</sub>-triethylamine 5g were ground to a homogeneous powder and 0.3g was filled into each sachets under inert atmospheric A 5% minoxidil (I) hydroalc. solution in 5mL unit dose vial was prepared. The content of sachet is added to the vial to obtain I-sulfate. The sulfation after 30min was 50%.

ST pyridino compd sulfate pharmaceutical; pyrimidino compd sulfate prepn pharmaceutical; triazino oxide sulfate pharmaceutical; sulfation pyridino pyrimidino pharmaceutical; midoxidil sulfate pharmaceutical

IT Antihypertensives  
 (pyridino and pyrimidino and triazino oxide sulfates as, preparation of)

IT Alopecia  
 (treatment of, with pyridino and pyrimidino and triazino oxide sulfates)

IT Hair preparations  
 (growth stimulants, pyridino and pyrimidino and triazino oxide sulfates as, preparation of)

IT 83701-22-8P, Minoxidil sulfate

RL: PREP (Preparation)

(preparation of, for pharmaceutical)

IT 761-01-3 3162-58-1, Trimethylamine sulfate 143410-70-2 143413-58-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with minoxidil)

IT 38304-91-5, Minoxidil

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with propylethylamine sulfate)

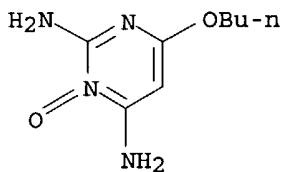
IT 63708-82-7 80142-52-5 81558-43-2 128304-90-5 130183-36-7  
 132971-00-7 138849-11-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (sulfation of)

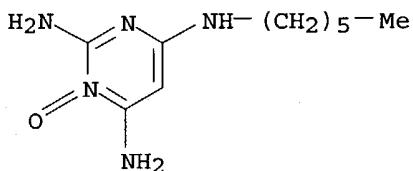
IT 128304-90-5 132971-00-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (sulfation of)

RN 128304-90-5 HCPLUS  
 CN 2,4-Pyrimidinediamine, 6-butoxy-, 3-oxide (9CI) (CA INDEX NAME)



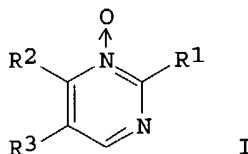
RN 132971-00-7 HCPLUS  
 CN 2,4,6-Pyrimidinetriamine, N4-hexyl-, 1-oxide (9CI) (CA INDEX NAME)



L45 ANSWER 3 OF 10 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1992:221322 HCPLUS  
 DN 116:221322  
 ED Entered STN: 31 May 1992  
 TI Preparation of pyrimidine 3-oxide derivatives for treatment of hair loss.  
 IN Hocquaux, Michel; Dumats, Jacqueline; Galey, Jean Baptiste  
 PA Oreal S. A., Fr.  
 SO PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French  
 IC ICM A61K007-06  
 ICS A61K031-505; C07D239-48  
 CC 62-3 (Essential Oils and Cosmetics)  
 Section cross-reference(s): 28

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9201437	A1	19920206	WO 1991-FR596	19910719 <--
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	CA 2087591	AA	19920121	CA 1991-2087591	19910719 <--
	EP 540629	A1	19930512	EP 1991-913941	19910719 <--
	EP 540629	B1	19940504		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE				
	JP 05509099	T2	19931216	JP 1991-513195	19910719 <--
	JP 3040164	B2	20000508		
	AT 105173	E	19940515	AT 1991-913941	19910719 <--
	ES 2052387	T3	19940701	ES 1991-913941	19910719 <--
	US 5328914	A	19940712	US 1993-956507	19930119 <--
PRAI	LU 1990-87766	A	19900720		<--
	EP 1991-913941	A	19910719		<--
	WO 1991-FR596	W	19910719		<--
OS	MARPAT 116:221322				
GI					



AB Compns. containing aminopyrimidine 3-oxide derivs. (I; R1 = Me, NHR4; R4 = C1-4 alkyl, H; R2 = H, NHR4; R2= Me when R1 = Me; when R1 = NH2, R2 ≠ H; R3 = H, C1-4 alkyl, halo, NO, NH2) and salts thereof are used for treatment of hair loss. Thus, 2,4-diamino-6-chloropyrimidine 3-oxide was hydrogenated over Pd/C to obtain 2,4-diaminopyrimidine-3-oxide (II). A hair lotion contained II 3, propylene glycol 20, EtOH 30; and water to 100 g.

ST pyrimidine deriv prepns hair growth stimulant

IT Alopecia  
(treatment of, with aminopyrimidine oxide derivs.)

IT Hair preparations  
(growth stimulants, aminopyrimidine oxide derivs., preparation of)

IT 35139-67-4, 2,4-Diamino-6-chloropyrimidine-3-oxide 91481-96-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenolysis of)

IT 139654-06-1  
RL: BIOL (Biological study)  
(hydrogenolysis of)

IT 141074-56-8P  
RL: PREP (Preparation)  
(preparation of, for hair loss treatment)

IT 74638-76-9P 91481-94-6P 91481-97-9P 141074-54-6P  
141074-55-7P 141074-57-9P 141074-58-0P 141074-59-1P 141074-60-4P,  
2,4-Diamino-5-nitropyrimidine-3-oxide  
RL: PREP (Preparation)

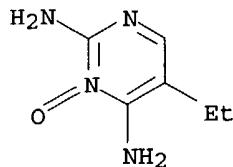
(preparation of, hair loss treatment with composition containing)  
IT 59-67-6, Nicotinic acid, reactions 128-08-5, N-Bromosuccinimide  
543-24-8, Aceturic acid 78418-01-6, 5-Octanoyl salicylic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with aminopyrimidine oxide)

IT 128-09-6, N-Chlorosuccinimide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with aminopyrimidine oxide derivs.)

IT 91481-94-6P  
RL: PREP (Preparation)  
(preparation of, hair loss treatment with composition containing)

RN 91481-94-6 HCAPLUS

CN 2,4-Pyrimidinediamine, 5-ethyl-, 3-oxide (9CI) (CA INDEX NAME)



L45 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:514532 HCAPLUS

DN 115:114532

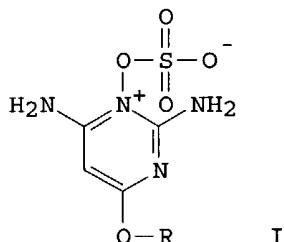
ED Entered STN: 23 Sep 1991

TI Internal salts of 2,4-diamino-6-alkoxy-3-sulfooxypyrimidinium hydroxides

IN and their use in the treatment and prevention of hair loss  
 Gaetani, Quintino; Estradier, Francoise; Hocquaux, Michel  
 PA Oreal S. A., Fr.  
 SO Eur. Pat. Appl., 11 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC ICM C07D239-48  
 ICS A61K007-06; A61K031-505  
 CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom))  
 Section cross-reference(s): 62, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 427625	A1	19910515	EP 1990-403161	19901107 <--
	EP 427625	B1	19950104		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE				
	FR 2654101	A1	19910510	FR 1989-14667	19891108 <--
	FR 2654101	B1	19920131		
	JP 03178968	A2	19910802	JP 1990-300036	19901107 <--
	ES 2066171	T3	19950301	ES 1990-403161	19901107 <--
	CA 2029601	AA	19910509	CA 1990-2029601	19901108 <--
PRAI	FR 1989-14667		19891108	<--	
OS	MARPAT 115:114532				
GI					



AB Title salts I [R = C1-18 alkyl, C2-18 alkenyl, (un)saturated cyclic radical, or C1-6 alkyl bearing an aromatic or heterocyclic nucleus] were prepared for treatment of hair loss, i.e. alopecia, desquamative dermatitis, etc. (no data). Thus, 0.003 mol 2,4-diamino-6-ethoxypyrimidine 3-oxide was added to a reaction mixture from 0.012 mol (Me2CH)2NET and 0.006 mol ClSO3H in ice-cold CHCl3, followed by stirring, evaporation, aqueous crystallization, and recrystn. (aqueous DMF) to give 40%

I (R = Et). A

lotion is prepared from I (R = Bu) 2.0, propylene glycol 22.8, EtOH 55.1 g, and H2O to 100.0 g. Seven addnl. I and 4 addnl. formulations are described.

ST aminoalkoxysulfooxypyrimidinium prepn treatment hair loss; pyrimidinium aminoalkoxysulfooxy prepn treatment alopecia

IT Alopecia  
 (treatment of, diaminoalkoxysulfooxypyrimidinium hydroxide internal salts for)

IT Dermatitis  
 (exfoliative, treatment of, diaminoalkoxysulfooxypyrimidinium hydroxide internal salts for)

IT 135837-75-1P 135837-76-2P 135837-77-3P  
 135837-78-4P 135837-79-5P 135837-80-8P  
 135837-81-9P 135837-82-0P, 2,4-Diamino-6-hexyloxy-3-sulfooxypyridinium hydroxide internal salt  
 RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, for treatment of hair loss)

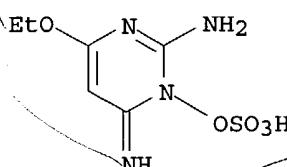
IT 128304-90-5, 2,4-Diamino-6-butoxypyrimidine 3-oxide  
 128304-91-6, 2,4-Diamino-6-ethoxypyrimidine 3-oxide  
 128304-93-8, 2,4-Diamino-6-hexyloxypyrimidine 3-oxide  
 128304-94-9, 2,4-Diamino-6-octyloxypyrimidine 3-oxide  
 128304-97-2 128304-99-4 135837-83-1  
 135837-84-2

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (sulfonation of, in preparation of hair loss drug)

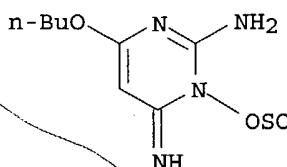
IT 135837-75-1P 135837-76-2P 135837-77-3P  
 135837-78-4P 135837-79-5P 135837-80-8P  
 135837-81-9P 135837-82-0P, 2,4-Diamino-6-hexyloxy-3-  
 sulfooxypyridinium hydroxide internal salt  
 RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, for treatment of hair loss)

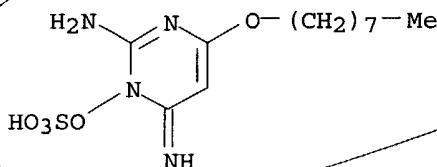
RN 135837-75-1 HCPLUS

CN 2-Pyrimidinamine, 4-ethoxy-1,6-dihydro-6-imino-1-(sulfoxy) - (9CI) (CA  
 INDEX NAME)

RN 135837-76-2 HCPLUS

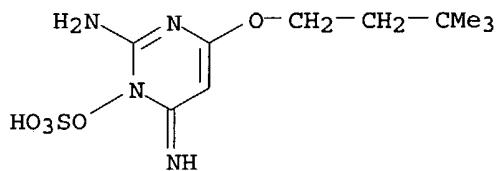
CN 2-Pyrimidinamine, 4-butoxy-1,6-dihydro-6-imino-1-(sulfoxy) - (9CI) (CA  
 INDEX NAME)

RN 135837-77-3 HCPLUS

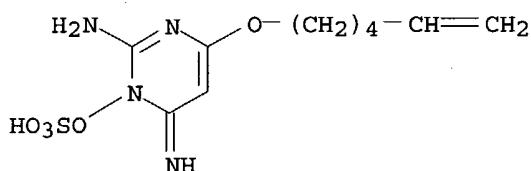
CN 2-Pyrimidinamine, 1,6-dihydro-6-imino-4-(octyloxy)-1-(sulfoxy) - (9CI)  
 (CA INDEX NAME)

RN 135837-78-4 HCPLUS

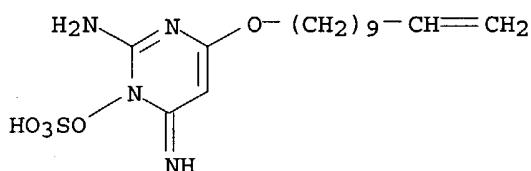
CN 2-Pyrimidinamine, 4-(3,3-dimethylbutoxy)-1,6-dihydro-6-imino-1-(sulfoxy) -  
 (9CI) (CA INDEX NAME)



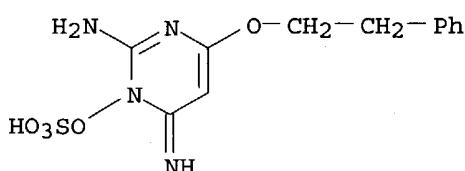
RN 135837-79-5 HCPLUS  
 CN 2-Pyrimidinamine, 4-(5-hexenylsulfonyl)-1,6-dihydro-6-imino-1-sulfo- (9CI)  
 (CA INDEX NAME)



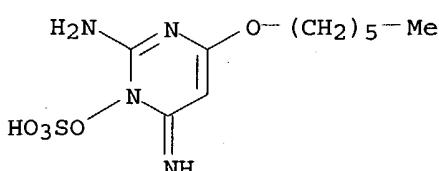
RN 135837-80-8 HCPLUS  
 CN 2-Pyrimidinamine, 1,6-dihydro-6-imino-1-sulfo-4-(10-undecenylsulfonyl)- (9CI) (CA INDEX NAME)



RN 135837-81-9 HCPLUS  
 CN 2-Pyrimidinamine, 1,6-dihydro-6-imino-4-(2-phenylethoxy)-1-sulfo- (9CI) (CA INDEX NAME)



RN 135837-82-0 HCPLUS  
 CN 2-Pyrimidinamine, 4-(hexyloxy)-1,6-dihydro-6-imino-1-sulfo- (9CI)  
 (CA INDEX NAME)



IT 128304-90-5, 2,4-Diamino-6-butoxypyrimidine 3-oxide  
 128304-91-6, 2,4-Diamino-6-ethoxypyrimidine 3-oxide

128304-93-8, 2,4-Diamino-6-hexyloxypyrimidine 3-oxide

128304-94-9, 2,4-Diamino-6-octyloxypyrimidine 3-oxide

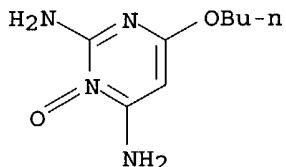
128304-97-2 128304-99-4 135837-83-1

135837-84-2

RL: RCT (Reactant); RACT (Reactant or reagent)  
(sulfonation of, in preparation of hair loss drug)

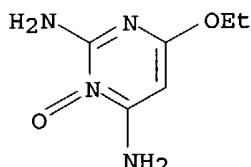
RN 128304-90-5 HCPLUS

CN 2,4-Pyrimidinediamine, 6-butoxy-, 3-oxide (9CI) (CA INDEX NAME)



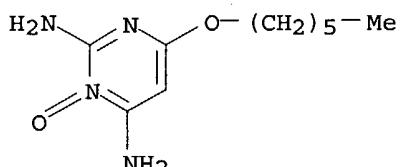
RN 128304-91-6 HCPLUS

CN 2,4-Pyrimidinediamine, 6-ethoxy-, 3-oxide (9CI) (CA INDEX NAME)



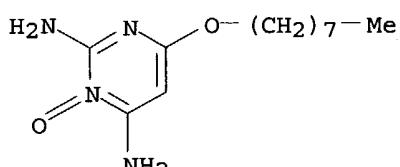
RN 128304-93-8 HCPLUS

CN 2,4-Pyrimidinediamine, 6-(hexyloxy)-, 3-oxide (9CI) (CA INDEX NAME)



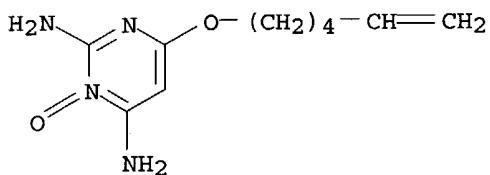
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CN 2,4-Pyrimidinediamine, 6-(octyloxy)-, 3-oxide (9CI) (CA INDEX NAME)

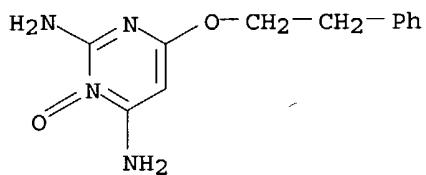


RN 128304-97-2 HCPLUS

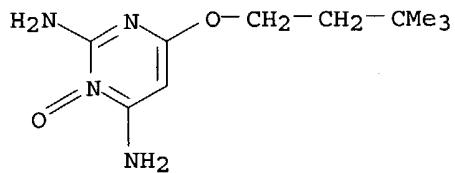
CN 2,4-Pyrimidinediamine, 6-(5-hexenyloxy)-, 3-oxide (9CI) (CA INDEX NAME)



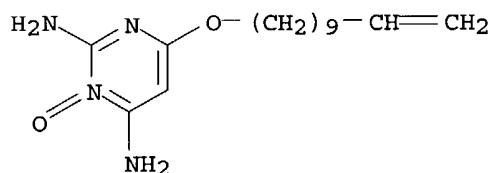
RN 128304-99-4 HCAPLUS  
 CN 2,4-Pyrimidinediamine, 6-(2-phenylethoxy)-, 3-oxide (9CI) (CA INDEX NAME)



RN 135837-83-1 HCAPLUS  
 CN 2,4-Pyrimidinediamine, 6-(3,3-dimethylbutoxy)-, 3-oxide (9CI) (CA INDEX NAME)



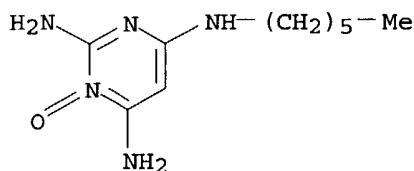
RN 135837-84-2 HCAPLUS  
 CN 2,4-Pyrimidinediamine, 6-(10-undecenylloxy)-, 3-oxide (9CI) (CA INDEX NAME)



L45 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1991:157150 HCAPLUS  
 DN 114:157150  
 ED Entered STN: 03 May 1991  
 TI Minoxidil sulfate is the active metabolite that stimulates hair follicles  
 AU Buhl, Allen E.; Waldon, Daniel J.; Baker, Carolyn A.; Johnson, Garland A.  
 CS Hairgrowth Res., Upjohn Co., Kalamazoo, MI, USA  
 SO Journal of Investigative Dermatology (1990), 95(5), 553-7  
 CODEN: JIDEAE; ISSN: 0022-202X  
 DT Journal  
 LA English  
 CC 1-12 (Pharmacology)  
 AB An important step in understanding minoxidil's mechanism of action on hair follicles was to determine the drug's active form. Organ-cultured

vibrissa follicles were used to test whether it is minoxidil or its sulfated metabolite, minoxidil sulfate, that stimulates hair growth. Follicles from neonatal mice were cultured with or without drugs and effects were assessed by measuring incorporation of radiolabeled cysteine in hair shafts of the treated follicles. Assays of minoxidil sulfotransferase activity indicated that vibrissae follicles metabolize minoxidil to minoxidil sulfate. Dose-response studies showed that minoxidil sulfate is 14 times more potent than minoxidil in stimulating cysteine incorporation in cultured follicles. Three drugs that block production of intrafollicular minoxidil sulfate were tested for their effects on drug-induced hair growth. Diethylcarbamazine proved to be a noncompetitive inhibitor of sulfotransferase and prevented hair growth stimulation by minoxidil but not by minoxidil sulfate. Inhibiting the formation of intracellular PAPS with chlorate also blocked the action of minoxidil but not of minoxidil sulfate. Acetaminophen, a potent sulfate scavenger, blocked cysteine incorporation by minoxidil. It also blocked follicular stimulation by minoxidil sulfate apparently by directly removing the sulfate from the drug. Expts. with U-51,607, a potent minoxidil analog that also forms a sulfated metabolite, showed that its activity was inhibited by both chlorate and diethylcarbamazine. These studies show that sulfation is a critical step for hair-growth effects of minoxidil and that it is the sulfated metabolite that directly affects hair follicles.

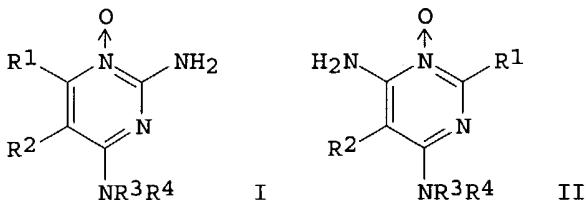
ST minoxidil sulfate hair growth  
 IT Drug interactions  
     (of acetaminophen with minoxidil sulfation, hair follicle stimulation in relation to)  
 IT Hair  
     (follicle, stimulation of, by minoxidil sulfate)  
 IT 103-90-2  
     RL: BIOL (Biological study)  
     (hair follicle stimulation by minoxidil inhibition by)  
 IT 38304-91-5, Minoxidil 132971-00-7, U 51607  
     RL: BIOL (Biological study)  
     (hair follicle stimulation by, sulfate metabolite in)  
 IT 83701-22-8  
     RL: BIOL (Biological study)  
     (hair follicles stimulation by, as minoxidil metabolite)  
 IT 52-90-4, Cysteine, biological studies  
     RL: BIOL (Biological study)  
     (in hair follicle stimulation by minoxidil, sulfate metabolite formation in relation to)  
 IT 132971-00-7, U 51607  
     RL: BIOL (Biological study)  
     (hair follicle stimulation by, sulfate metabolite in)  
 RN 132971-00-7 HCPLUS  
 CN 2,4,6-Pyrimidinetriamine, N4-hexyl-, 1-oxide (9CI) (CA INDEX NAME)



L45 ANSWER 6 OF 10 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1990:597661 HCPLUS  
 DN 113:197661  
 ED Entered STN: 23 Nov 1990  
 TI Hair growth stimulating preparations containing pyrimidine

IN N-oxides  
 IN Suetsugu, Masaru; Fujinuma, Yoshimori; Ishino, Akihiro; Tsuji, Yoshiharu;  
 Nakanishi, Jotaro  
 PA Shiseido Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM A61K007-06  
 ICS A61K031-505  
 ICA C07D239-48; C07D239-50  
 CC 62-3 (Essential Oils and Cosmetics).  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02160710	A2	19900620	JP 1988-315686	19881214 <--
	JP 2814090	B2	19981022		
	JP 10182365	A2	19980707	JP 1997-365532	19971222 <--
	JP 2961528	B2	19991012		
PRAI	JP 1988-315686	A3	19881214 <--		
OS	MARPAT 113:197661				
GI					



AB Hair growth stimulating preps. contain pyrimidine N-oxides I, II [R1 = C1-8 alkyl, R2 = H, C1-8 alkyl, Br, Cl, NO<sub>2</sub>, NH<sub>2</sub>; R3, R4 = H, C1-8 alkyl, C3-8 alkenyl (N-attaching C is saturated) C7-12 phenylalkyl, C3-8 cycloalkyl, R3 = R4 ≠ H; NR3R4 may form aziridinyl, azetidinyl, pyrrolidinyl, piperidino, hexahydroazepinyl, heptamethylenimino, octamethylenimino, morpholino, 4-alkylpiperazinyl, which may have 1-3 C1-3 alkyl group(s) attached to their ring C], their acyl derivs., their tautomers, and/or their salts. 2-Amino-4-methyl-6-piperidinopyrimidine 3-oxide 2.0, 95% EtOH 60.0, H<sub>2</sub>O 36.0, and poly(oxyethylene) hydrogenated castor oil 2.0% by weight were mixed to give a liquid preparation, which accelerated

### hair growth in mice.

ST hair growth stimulant pyrimidine oxide

## IT      Alopecia

(treatment of, pyrimidine oxides for)

## IT Hair preparations

(growth stimulants, pyrimidine oxides in)

IT 81558-43-2 128305-05-5 130183-36-7 130183-37-8 130183-38-9

RL: BIOL (Biological study)

(hair growth stimulating preps. containing)

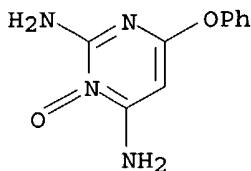
IT 130183-37-8

RL: BIOL (Biological study)

(hair growth stimulating preps. containing)

RN 130183-37-8

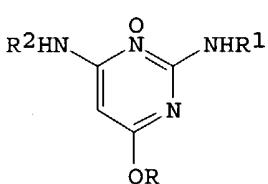
### 2,4-Pyrimidinediamine, 6-phenyl-



L45 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1990:459211 HCAPLUS  
 DN 113:59211  
 ED Entered STN: 17 Aug 1990  
 TI Preparation and formulation of 2,4-diaminopyrimidine-3-oxides for use in treatment and prevention of hair loss  
 IN Hocquaux, Michel; Dumats, Jacqueline; Gaetani, Quintino  
 PA Oreal S. A., Fr.  
 SO Eur. Pat. Appl., 21 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC ICM C07D239-48  
 ICS A61K007-06  
 CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom))  
 Section cross-reference(s): 63

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 356271	A1	19900228	EP 1989-402002	19890712 <--
	EP 356271	B1	19950405		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE				
	AT 120738	E	19950415	AT 1989-402002	19890712 <--
	ES 2070186	T3	19950601	ES 1989-402002	19890712 <--
	JP 02078666	A2	19900319	JP 1989-194437	19890728 <--
	US <u>4973474</u>	A	19901127	US 1989-387590	19890731 <--
	CA 1340445	A1	19990316	CA 1989-607180	19890801 <--
	EP 408442	A1	19910116	EP 1990-401983	19900710 <--
	EP 408442	B1	19940831		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE				
	ES 2063309	T3	19950101	ES 1990-401983	19900710 <--
	CA 2020986	AA	19910113	CA 1990-2020986	19900712 <--
	JP 03115270	A2	19910516	JP 1990-185141	19900712 <--
	US 5132106	A	19920721	US 1990-551534	19900712 <--
PRAI	LU 1988-87308		19880801	<--	
	EP 1989-402002		19890712	<--	
	US 1989-387590		19890731	<--	
	FR 1990-1148		19900131	<--	
OS	MARPAT 113:59211				
GI					



I

AB The title compds. [I; R = alkyl, alkenyl, cycloalkyl, aralkyl; R1,R2 = H,

acylcarbamoyl, (un)substituted aralkyl] were prepared for treatment and prevention of hair loss (no data). Thus, 2,4-diamino-6-chloropyrimidine 3-oxide was refluxed 24 h with NaOBu in BuOH to give I (R = Bu, R1 = R2 = H).

ST aminopyrimidine oxide prepn hair loss; pyrimidine oxide diamino hair loss

IT Alopecia

(prevention and treatment of, diaminopyrimidine oxides for)

IT 128304-90-5P 128304-91-6P 128304-92-7P

128304-93-8P 128304-94-9P 128304-95-0P

128304-96-1P 128304-97-2P 128304-98-3P

128304-99-4P 128305-00-0P 128305-01-1P 128305-02-2P

128305-03-3P 128305-04-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, for treatment and prevention of hair loss)

IT 60-12-8, Benzeneethanol 71-36-3, 1-Butanol, reactions 79-22-1, Methylchloroformate 79-44-7, N,N-Dimethylcarbamoyl chloride 104-76-7, 111-27-3, Hexanol, reactions 111-87-5, 1-Octanol, reactions 112-43-6, 10-Undecen-1-ol 112-53-8, 1-Dodecanol 501-53-1, Benzylchloroformate 821-41-0, 5-Hexen-1-ol 35139-67-4, 2,4-Diamino-6-chloropyrimidine-3-oxide 128305-05-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, in preparation of agents for treatment and prevention of hair loss)

IT 128304-90-5P 128304-91-6P 128304-92-7P

128304-93-8P 128304-94-9P 128304-95-0P

128304-96-1P 128304-97-2P 128304-98-3P

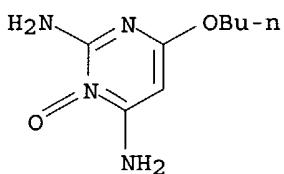
128304-99-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, for treatment and prevention of hair loss)

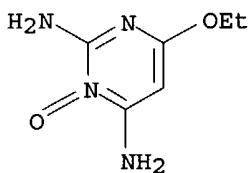
RN 128304-90-5 HCPLUS

CN 2,4-Pyrimidinediamine, 6-butoxy-, 3-oxide (9CI) (CA INDEX NAME)



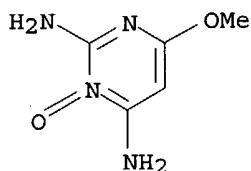
RN 128304-91-6 HCPLUS

CN 2,4-Pyrimidinediamine, 6-ethoxy-, 3-oxide (9CI) (CA INDEX NAME)

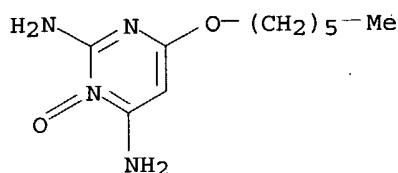


RN 128304-92-7 HCPLUS

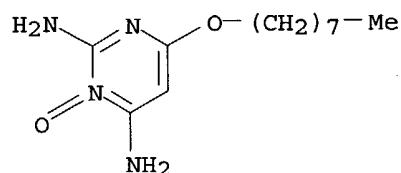
CN 2,4-Pyrimidinediamine, 6-methoxy-, 3-oxide (9CI) (CA INDEX NAME)



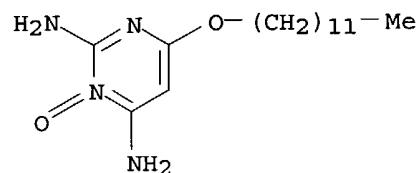
RN 128304-93-8 HCPLUS  
 CN 2,4-Pyrimidinediamine, 6-(hexyloxy)-, 3-oxide (9CI) (CA INDEX NAME)



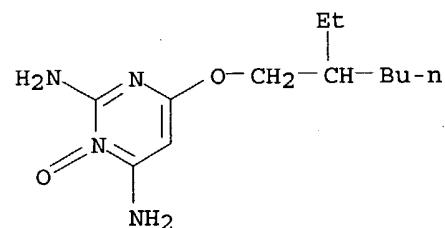
RN 128304-94-9 HCPLUS  
 CN 2,4-Pyrimidinediamine, 6-(octyloxy)-, 3-oxide (9CI) (CA INDEX NAME)



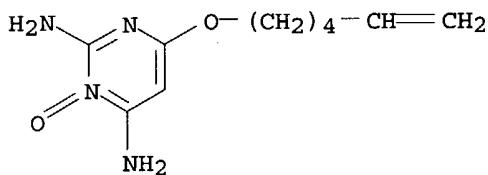
RN 128304-95-0 HCPLUS  
 CN 2,4-Pyrimidinediamine, 6-(dodecyloxy)-, 3-oxide (9CI) (CA INDEX NAME)



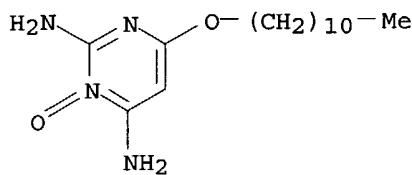
RN 128304-96-1 HCPLUS  
 CN 2,4-Pyrimidinediamine, 6-[(2-ethylhexyl)oxy]-, 3-oxide (9CI) (CA INDEX NAME)



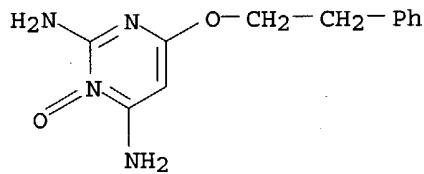
RN 128304-97-2 HCPLUS  
 CN 2,4-Pyrimidinediamine, 6-(5-hexenyloxy)-, 3-oxide (9CI) (CA INDEX NAME)



RN 128304-98-3 HCPLUS  
 CN 2,4-Pyrimidinediamine, 6-(undecyloxy)-, 3-oxide (9CI) (CA INDEX NAME)

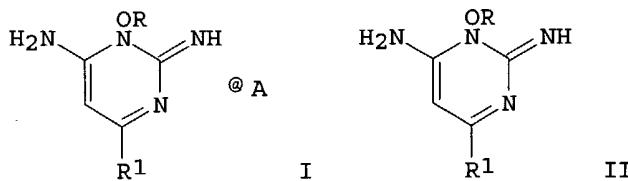


RN 128304-99-4 HCPLUS  
 CN 2,4-Pyrimidinediamine, 6-(2-phenylethoxy)-, 3-oxide (9CI) (CA INDEX NAME)



L45 ANSWER 8 OF 10 HCPLUS COPYRIGHT 2004 ACS on STN  
 AN 1988:493038 HCPLUS  
 DN 109:93038  
 ED Entered STN: 17 Sep 1988  
 TI Preparation of 6-amino-1,2-dihydro-1-hydroxy-2-iminopyrimidine derivatives and cosmetic compositions containing them  
 IN Saccani, Renato; Mattac, Margherita; Saccani, Enrica  
 PA Kemyos Bio Medical Research S.r.l., Italy  
 SO Fr. Demande, 21 pp.  
 CODEN: FRXXBL  
 DT Patent  
 LA French  
 IC ICM C07D239-48  
 ICS C07D401-04; A61K007-06; C07C149-247; C07C149-24; C07C149-40  
 ICI C07D401-04, C07D239-48, C07D211-40  
 CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom))  
 Section cross-reference(s): 34, 62  
 FAN.CNT 1  

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI FR 2590897	A1	19870605	FR 1985-17798	19851202 <--
FR 2590897	B1	19880219		
PRAI FR 1985-17798		19851202 <--		
GI				



AB The title compds. [I; R = H, SO<sub>3</sub><sup>-</sup>; R1 = 1-piperidinyl, 3-hydroxy-1-piperidinyl, 4-hydroxy-1-piperidinyl, HO<sub>2</sub>C(CH<sub>2</sub>)<sub>4</sub>NH; A = N-acetylcysteine, thiosalicylic acid, carboxycysteine, 2-(benzoylthio)propionylglycine], useful for treatment of **baldness**, are prepared 4-Chloro-2,6-diaminopyrimidine was reacted with 3-hydroxypiperidine at 100° for 1.5 h to give 2,6-diamino-4-(3-hydroxy-1-piperidinyl)pyrimidine, which was treated with 30% H<sub>2</sub>O<sub>2</sub> to give dihydropyrimidine derivative II (R = H, R1 = 3-hydroxy-1-piperidinyl). This and N-acetylcysteine were dissolved in Me<sub>2</sub>CHOH with heat to give I (R = H, R1 = 3-hydroxy-1-piperidinyl, A = N-acetylcysteine). Seven **hair** preps. are given containing I for the treatment of **baldness**. In an experiment using rabbits, **hair** growth in shaven areas treated with I was 0.3 mm/day, which was 35% faster than untreated areas.

ST aminodihydrohydroxyiminopyrimidine deriv prep **hair** growth; pyrimidine aminodihydrohydroxyimino deriv prep **hair** growth

IT **Alopecia**  
(treatment of, aminodihydrohydroxyiminopyrimidines for)

IT 660-88-8, 5-Aminopentanoic acid 5382-16-1 6859-99-0,  
3-Hydroxypiperidine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(amination by, of chloroiminopyrimidine derivs.)

IT 156-83-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(amination of, by piperidine derivs.)

IT 38304-91-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification of, with chlorosulfonic acid)

IT 7790-94-5, Chlorosulfonic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification of, with hydroxydihydropyrimidine derivative)

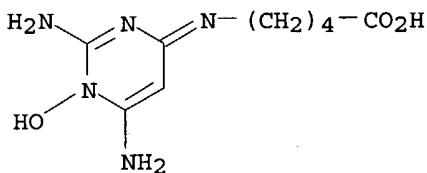
IT 111152-92-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and oxidation of)

IT 39640-64-7P 39640-65-8P 111152-78-4P 111152-79-5P 111152-80-8P  
111152-81-9P 111152-82-0P 111152-83-1P 111152-84-2P  
111152-85-3P 111152-86-4P 111152-87-5P  
111152-88-6P 111152-89-7P 111152-90-0P 111180-28-0P 111180-29-1P  
111180-30-4P 111180-31-5P 113318-17-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, for treatment of **baldness**)

IT 111152-84-2P 111152-85-3P 111152-86-4P  
111152-87-5P 111180-30-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, for treatment of **baldness**)

RN 111152-84-2 HCPLUS

CN Pentanoic acid, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]- (9CI) (CA INDEX NAME)



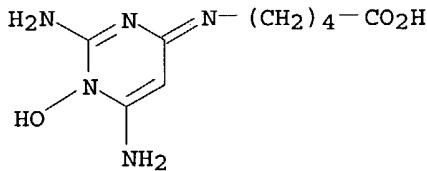
RN 111152-85-3 HCPLUS

CN L-Cysteine, N-acetyl-, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoate (9CI) (CA INDEX NAME)

CM 1

CRN 111152-84-2

CMF C9 H15 N5 O3

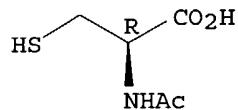


CM 2

CRN 616-91-1

CMF C5 H9 N O3 S

Absolute stereochemistry.



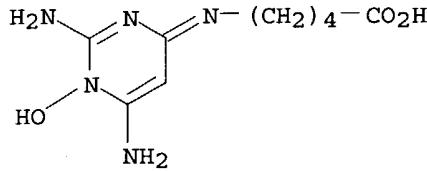
RN 111152-86-4 HCPLUS

CN Benzoic acid, 2-mercaptop-, compd. with 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 111152-84-2

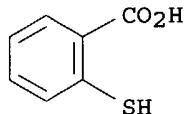
CMF C9 H15 N5 O3



CM 2

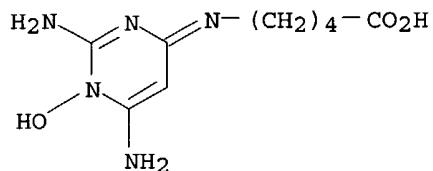
CRN 147-93-3

CMF C7 H6 O2 S

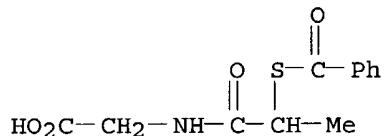


RN 111152-87-5 HCPLUS  
 CN Glycine, N-[2-(benzoylthio)-1-oxopropyl]-, compd. with  
 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoic  
 acid (1:1) (9CI). (CA INDEX NAME)

CM 1

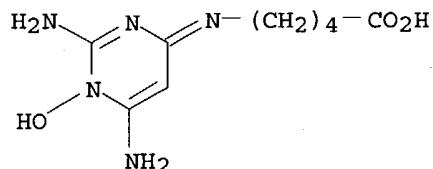
CRN 111152-84-2  
 CMF C9 H15 N5 O3

CM 2

CRN 6183-01-3  
 CMF C12 H13 N O4 S

RN 111180-30-4 HCPLUS  
 CN L-Cysteine, S-(carboxymethyl)-, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoate (9CI) (CA INDEX NAME)

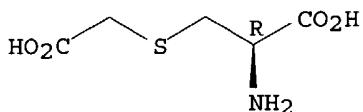
CM 1

CRN 111152-84-2  
 CMF C9 H15 N5 O3

CM 2

CRN 638-23-3  
CMF C5 H9 N O4 S

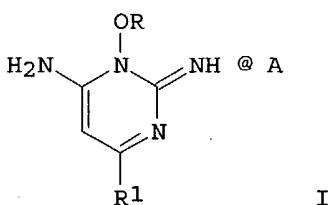
Absolute stereochemistry.



L45 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1988:118712 HCAPLUS  
DN 108:118712  
ED Entered STN: 01 Apr 1988  
TI Pyrimidine compounds for the growth of hair and cosmetic formulations containing such compounds  
IN Saccani, Renato; Mattacchini, Margherita; Saccani, Enrica  
PA Kemyos Bio Medical Research S.r.l., Italy  
SO Brit. UK Pat. Appl., 9 pp.  
CODEN: BAXXDU  
DT Patent  
LA English  
IC ICM C07D401-04  
ICS A61K031-095; A61K031-195; A61K031-505; C07C101-02; C07C149-40; C07C149-243; C07C153-00; C07D239-46  
CC 62-3 (Essential Oils and Cosmetics)  
Section cross-reference(s): 28

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2183632	A1	19870610	GB 1985-30065	19851206 <--
	GB 2183632	B2	19900404		
PRAI	GB 1985-30065		19851206 <--		
GI					

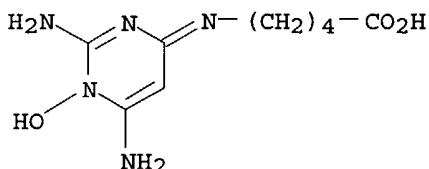


AB The title compds. [I; R = H, SO3H; R1 = 1-piperidinyl, 3-hydroxy-1-piperidinyl, HO2C(CH2)4NH; when R = H, then A = N-acetylcysteine, thiosalicylic acid, S-carboxymethylcysteine, N-[2-(benzoylthio)propionyl]glycine and when R = SO3H, then A = arginine, cysteine Me ester, lysine, carboxycysteine di-Me ester, where the amino acids may be in D-, L-, or DL-form], useful for stimulation of hair growth and treatment of alopecia, are prepared. 4-Chloro-2,6-diaminopyrimidine (3 g) was heated at 100° for 1.5 h with 30 g 3-hydroxypiperidine to give 3.2 g 2,6-diamino-4-(3-hydroxy-1-piperidinyl)pyrimidine, which (18 g) was treated with 30 mL 30% H2O2 in 100 mL MeOH, stirred for 1 h, the solvent evaporated, and the residue heated at 60° for 30 min to give 15 g 6-amino-1,2-dihydro-1-hydroxy-2-imino-4-(3-hydroxy-1-piperidinyl)pyrimidine. The latter compound (21.69 g) was treated with 15.42 g thiosalicylic acid in Me2CHOH to give 35 g I (R = H, R1 = 3-hydroxy-1-piperidinyl, A = thiosalicylic acid) (II). A

lotion contained iso-Pr myristate 10, PEG 6000 DS 20, cetyl alc. 20, antioxidant 1.0, Carbopol 940 1.5, EDTA 0.5, perfume composition 5, II 10 g, 10% NaOH 3 mL, EtOH 30 mL, and water qs 1L. The average speed of hair growth on shaved New Zealand rabbits with I applied topically at 1 mg/day in 2 applications was 0.3 mm/day with maximum activity after 45-60 days of treatment. I were more active than minoxidil when using equivalent quantities.

ST minoxidil metabolite salt prepn hair growth  
 IT **Alopecia**  
     (treatment of, minoxidil metabolite salts for)  
 IT **Hair preparations**  
     (growth stimulants, minoxidil metabolite salts)  
 IT 39640-65-8P  
     RL: PREP (Preparation)  
         (preparation and conversion to sulfate with chlorosulfonic acid)  
 IT 111152-92-2P  
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
         (preparation and oxidation of, with hydrogen peroxide)  
 IT 39640-64-7P 80142-71-8P 113266-59-4P  
     RL: PREP (Preparation)  
         (preparation of)  
 IT 111152-78-4P 111152-79-5P 111152-80-8P 111152-81-9P 111152-82-0P  
**111152-85-3P 111152-86-4P 111152-87-5P**  
 111180-28-0P 111180-29-1P 111180-30-4P 113266-62-9P  
 113266-64-1P 113266-65-2P 113266-66-3P 113318-17-5P  
     RL: PREP (Preparation)  
         (preparation of, as hair growth stimulant)  
 IT 660-88-8 5382-16-1, 4-Hydroxypiperidine 6859-99-0, 3-Hydroxypiperidine  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
         (reaction of, with chloropyrimidinediamine)  
 IT 156-83-2, 4-Chloro-2,6-diaminopyrimidine  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
         (reaction of, with hydroxypiperidine or aminopetanoic acid)  
 IT 38304-91-5, Minoxidil  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
         (sulfation of, with chlorosulfonic acid)  
 IT 111152-85-3P 111152-86-4P 111152-87-5P  
**111180-30-4P**  
     RL: PREP (Preparation)  
         (preparation of, as hair growth stimulant)  
 RN 111152-85-3 HCPLUS  
 CN L-Cysteine, N-acetyl-, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoate (9CI) (CA INDEX NAME)

CM 1

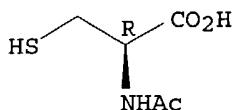
CRN 111152-84-2  
CMF C9 H15 N5 O3

CM 2

CRN 616-91-1

CMF C5 H9 N O3 S

Absolute stereochemistry.



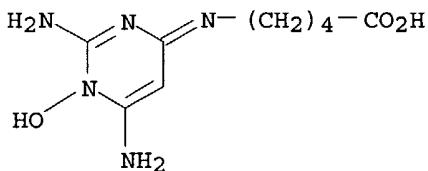
RN 111152-86-4 HCAPLUS

CN Benzoic acid, 2-mercaptopro-, compd. with 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)aminolpentanoic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 111152-84-2

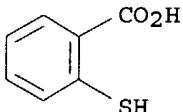
CMF C9 H15 N5 O3



CM 2

CRN 147-93-3

CMF C7 H6 O2 S



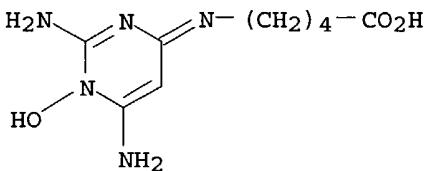
RN 111152-87-5 HCAPLUS

CN Glycine, N-[2-(benzoylthio)-1-oxopropyl]-, compd. with 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)aminolpentanoic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

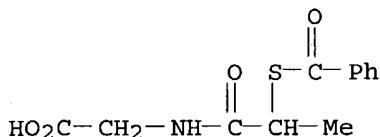
CRN 111152-84-2

CMF C9 H15 N5 O3



CM 2

CRN 6183-01-3  
CMF C12 H13 N 04 S

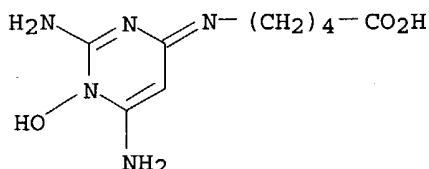


RN 111180-30-4 HCAPLUS

CN L-Cysteine, S-(carboxymethyl)-, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoate (9CI) (CA INDEX NAME)

CM 1

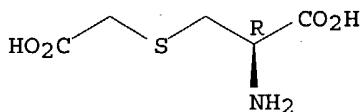
CRN 111152-84-2  
CMF C9 H15 N5 O3



CM 2

CRN 638-23-3  
CMF C5 H9 N 04 S

### Absolute stereochemistry.



L45 ANSWER 10 OF 10 HCPLUS COPYRIGHT 2004 ACS on STN

AN 1987:604911 HCAPLUS

DN 107:204911

ED Entered STN: 27 Nov 1987

TI Preparation of pyrimidine derivatives as hair-growth stimulators

## Preparation of pyrimidine derivatives as hair growth stimulants

IN Saccani, Renato; Mattacchini, Margherita;  
PA Kermes Bio Medical Research S.r.l. Italy

PA Kellyos Bio Medical  
SO San Offen 8 pp

Ger. Offen.,

CODEN : **BB** **Environ**

DT Patent

LA German

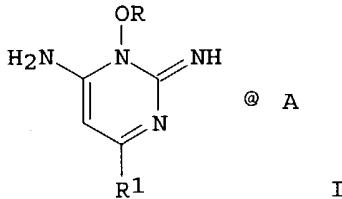
ICM C07D239-48  
ICS C07D401-04; A61K007-06; A61K031-505; C07C149-247; C07C149-40;  
C07C101-31; C07C129-12

CC 62-3 (Essential Oils and Cosmetics)  
Section cross-reference(s): 28

EEEEE  
FAN CNT 1

APPLICATION NO. DATE

PI	DE 3544267	A1	19870619	DE 1985-3544267	19851214 <--
	DE 3544267	C2	19890720		
PRAI	DE 1985-3544267		19851214 <--		
GI					



AB The pyrimidines I (R = H, SO<sub>3</sub>H; R1 = piperidin-1-yl, 3- or 4-hydroxypiperidin-1-yl, 4-carboxybutylamino; when R = H, A = N-acetylcysteine, carboxycysteine, thiosalicylic acid, 2-benzoylmercaptopropionyl glycine; when R = SO<sub>3</sub>H, A = arginine, methylcysteine, lysine, carboxycysteine di-Me ester) are prepared as hair-growth stimulators and alopecia-controlling agents. A mixture of 4-chloro-2,6-diaminopyrimidine and 3-hydroxypiperidine was heated at 100° for 1.5 h, followed by treatment with NaOH, to give 2,6-diamino-4-(3-hydroxypiperidin-1-yl)pyrimidine, which was treated with H<sub>2</sub>O<sub>2</sub> in MeOH to give 6-amino-1,2-dihydro-1-hydroxy-2-imino-4-(3-hydroxypiperidin-1-yl)pyrimidine (II). II and N-acetylcysteine in iso-PrOH was treated with Me<sub>2</sub>CO to precipitate II.N-acetylcysteinate (III). A shampoo was made of Na lauryl ethoxylate 600, coco diethanolamide 60, ethylene glycol monostearate 20, polyethylene glycol distearate 20, dye 2.5, III 2.0 g, preservative, and water to 1000 g.

ST pyrimidine deriv prep hair stimulant; alopecia treatment pyrimidine deriv

IT Alopecia (treatment of, N-hydroxyiminopyrimidinamine derivs. for)

IT Hair preparations (growth stimulants, N-hydroxyiminopyrimidinamine derivs.)

IT 39640-64-7P 39640-65-8P **111152-84-2P** 111152-93-3P  
RL: PREP (Preparation)  
(preparation and conversion to amino acid salts)

IT 111152-92-2P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrogen peroxide oxidation of)

IT 111152-78-4P 111152-79-5P 111152-80-8P 111152-81-9P 111152-82-0P  
111152-83-1P **111152-85-3P** **111152-86-4P**  
**111152-87-5P** 111152-89-7P 111152-90-0P 111152-91-1P  
111180-28-0P 111180-29-1P **111180-30-4P** 111180-31-5P  
RL: PREP (Preparation)  
(preparation of, as hair growth stimulator)

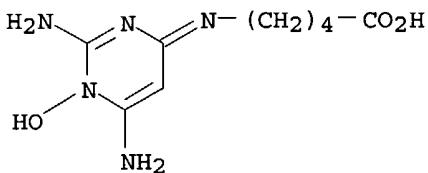
IT 660-88-8, 5-Aminopentanoic acid 5382-16-1, 4-Hydroxypiperidine 6859-99-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chloro(diamino)pyrimidine)

IT 156-83-2, 4-Chloro-2,6-diaminopyrimidine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with hydroxypiperidine)

IT **111152-84-2P**  
RL: PREP (Preparation)  
(preparation and conversion to amino acid salts)

RN 111152-84-2 HCPLUS

CN Pentanoic acid, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]- (9CI) (CA INDEX NAME)



IT 111152-85-3P 111152-86-4P 111152-87-5P

111180-30-4P

RL: PREP (Preparation)

(preparation of, as hair growth stimulator)

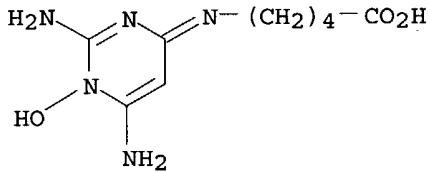
RN 111152-85-3 HCPLUS

CN L-Cysteine, N-acetyl-, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoate (9CI) (CA INDEX NAME)

CM 1

CRN 111152-84-2

CMF C9 H15 N5 O3

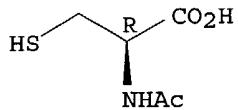


CM 2

CRN 616-91-1

CMF C5 H9 N O3 S

Absolute stereochemistry.



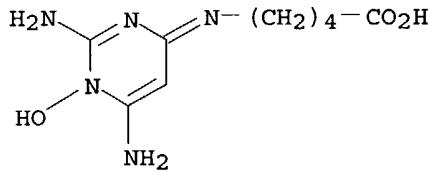
RN 111152-86-4 HCPLUS

CN Benzoic acid, 2-mercaptop-, compd. with 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoic acid (1:1) (9CI) (CA INDEX NAME)

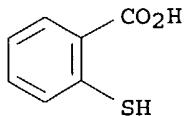
CM 1

CRN 111152-84-2

CMF C9 H15 N5 O3

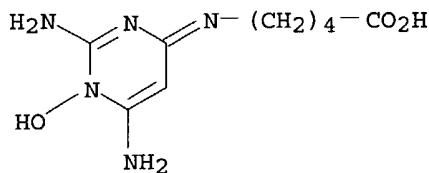


CM 2

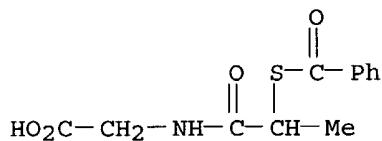
CRN 147-93-3  
CMF C7 H6 O2 S

RN 111152-87-5 HCPLUS  
 CN Glycine, N-[2-(benzoylthio)-1-oxopropyl]-, compd. with  
 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoic  
 acid (1:1) (9CI) (CA INDEX NAME)

CM 1

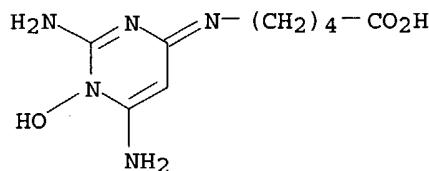
CRN 111152-84-2  
CMF C9 H15 N5 O3

CM 2

CRN 6183-01-3  
CMF C12 H13 N O4 S

RN 111180-30-4 HCPLUS  
 CN L-Cysteine, S-(carboxymethyl)-, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoate (9CI) (CA INDEX NAME)

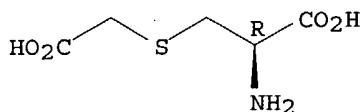
CM 1

CRN 111152-84-2  
CMF C9 H15 N5 O3

CM 2

CRN 638-23-3  
 CMF C5 H9 N O4 S

Absolute stereochemistry.



=> fil reg  
 FILE 'REGISTRY' ENTERED AT 09:51:43 ON 21 JUN 2004  
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STRUCTURE FILE UPDATES: 20 JUN 2004 HIGHEST RN 696584-79-9  
 DICTIONARY FILE UPDATES: 20 JUN 2004 HIGHEST RN 696584-79-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

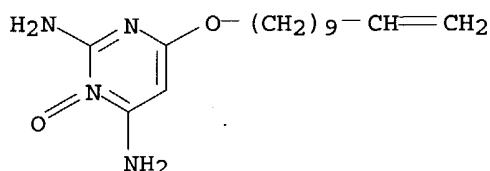
Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d 122 ide can tot

L22 ANSWER 1 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-84-2 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-(10-undecenoxy)-, 3-oxide (9CI) (CA INDEX  
 NAME)  
 FS 3D CONCORD  
 MF C15 H26 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS  
 DT.CA CAPplus document type: Patent  
 RL.P Roles from patents: RACT (Reactant or reagent)

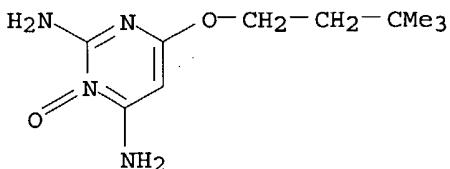


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 2 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-83-1 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-(3,3-dimethylbutoxy)-, 3-oxide (9CI) (CA INDEX  
 NAME)  
 FS 3D CONCORD  
 MF C10 H18 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS  
 DT.CA Caplus document type: Patent  
 RL.P Roles from patents: RACT (Reactant or reagent)

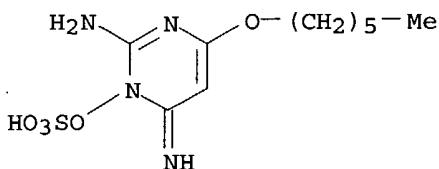


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 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 3 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-82-0 REGISTRY  
 CN 2-Pyrimidinamine, 4-(hexyloxy)-1,6-dihydro-6-imino-1-(sulfooxy)- (9CI)  
 (CA INDEX NAME)  
 OTHER NAMES:  
 CN 2,4-Diamino-6-hexyloxy-3-sulfooxypyridinium hydroxide internal salt  
 FS 3D CONCORD  
 MF C10 H18 N4 O5 S  
 SR CA  
 LC STN Files: CA, CAPLUS  
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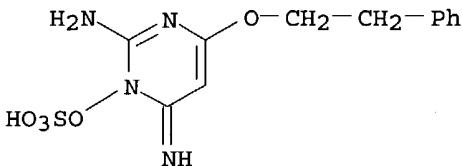


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REFERENCE 1: 115:114532

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 RN 135837-81-9 REGISTRY  
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 RL.P Roles from patents: PREP (Preparation)

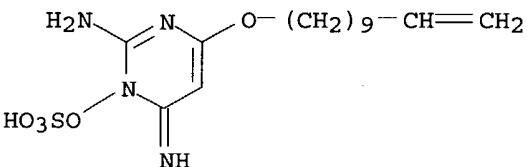


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1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 5 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-80-8 REGISTRY  
 CN 2-Pyrimidinamine, 1,6-dihydro-6-imino-1-(sulfooxy)-4-(10-undecenyloxy)- (9CI) (CA INDEX NAME)  
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 LC STN Files: CA, CAPLUS  
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 RL.P Roles from patents: PREP (Preparation)



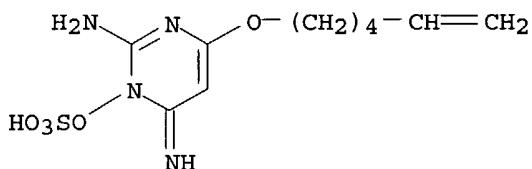
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 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 6 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-79-5 REGISTRY  
 CN 2-Pyrimidinamine, 4-(5-hexenyloxy)-1,6-dihydro-6-imino-1-(sulfooxy)- (9CI) (CA INDEX NAME)

FS 3D CONCORD  
 MF C10 H16 N4 O5 S  
 SR CA  
 LC STN Files: CA, CAPLUS  
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 RL.P Roles from patents: PREP (Preparation)

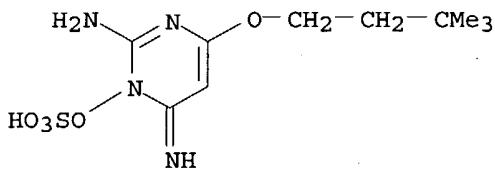


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1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 7 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-78-4 REGISTRY  
 CN 2-Pyrimidinamine, 4-(3,3-dimethylbutoxy)-1,6-dihydro-6-imino-1-(sulfooxy) - (9CI) (CA INDEX NAME)  
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 MF C10 H18 N4 O5 S  
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 LC STN Files: CA, CAPLUS  
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 RL.P Roles from patents: PREP (Preparation)

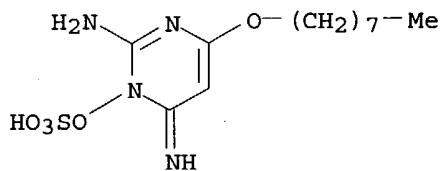


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 8 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-77-3 REGISTRY  
 CN 2-Pyrimidinamine, 1,6-dihydro-6-imino-4-(octyloxy)-1-(sulfooxy) - (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C12 H22 N4 O5 S  
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 LC STN Files: CA, CAPLUS  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

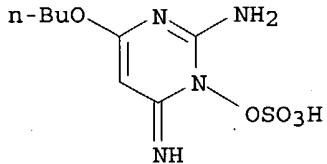


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 9 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-76-2 REGISTRY  
 CN 2-Pyrimidinamine, 4-butoxy-1,6-dihydro-6-imino-1-(sulfooxy)- (9CI) (CA  
 INDEX NAME)  
 FS 3D CONCORD  
 MF C8 H14 N4 O5 S  
 SR CA  
 LC STN Files: CA, CAPLUS  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

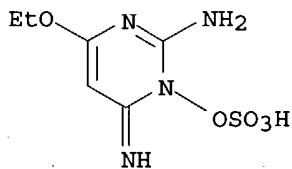


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 10 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 135837-75-1 REGISTRY  
 CN 2-Pyrimidinamine, 4-ethoxy-1,6-dihydro-6-imino-1-(sulfooxy)- (9CI) (CA  
 INDEX NAME)  
 FS 3D CONCORD  
 MF C6 H10 N4 O5 S  
 SR CA  
 LC STN Files: CA, CAPLUS  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

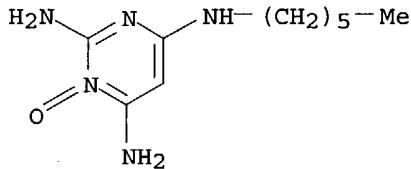


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

L22 ANSWER 11 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 132971-00-7 REGISTRY  
 CN 2,4,6-Pyrimidinetriamine, N4-hexyl-, 1-oxide (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN U 51607  
 FS 3D CONCORD  
 MF C10 H19 N5 O  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Journal; Patent  
 RL.P Roles from patents: RACT (Reactant or reagent)  
 RL.NP Roles from non-patents: BIOL (Biological study); RACT (Reactant or reagent)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

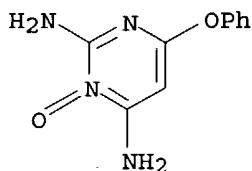
3 REFERENCES IN FILE CA (1907 TO DATE)  
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 121:124533

REFERENCE 2: 117:137681

REFERENCE 3: 114:157150

L22 ANSWER 12 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 130183-37-8 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-phenoxy-, 3-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C10 H10 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: BIOL (Biological study)

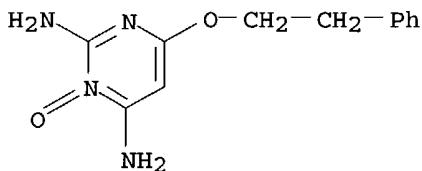


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 113:197661

L22 ANSWER 13 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-99-4 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-(2-phenylethoxy)-, 3-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C12 H14 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)



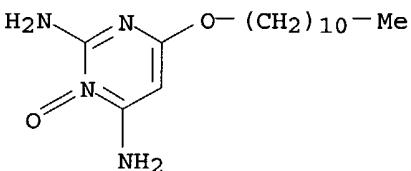
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

REFERENCE 2: 113:59211

L22 ANSWER 14 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-98-3 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-(undecyloxy)-, 3-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C15 H28 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

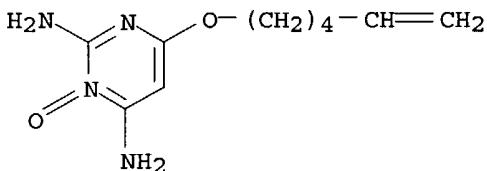


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 113:59211

L22 ANSWER 15 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-97-2 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-(5-hexenyloxy)-, 3-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C10 H16 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)



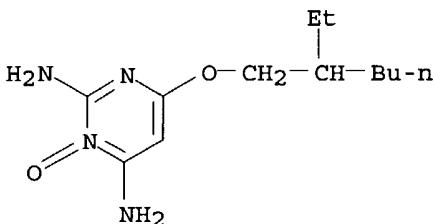
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

REFERENCE 2: 113:59211

L22 ANSWER 16 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-96-1 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-[(2-ethylhexyl)oxy]-, 3-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C12 H22 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

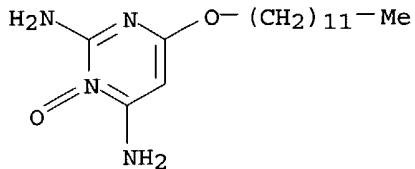


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 113:59211

L22 ANSWER 17 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-95-0 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-(dodecyloxy)-, 3-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C16 H30 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

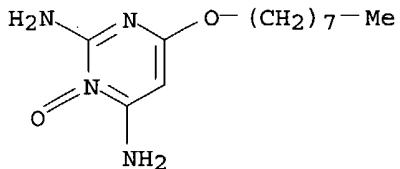


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 113:59211

L22 ANSWER 18 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-94-9 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-(octyloxy)-, 3-oxide (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN 2,4-Diamino-6-(octyloxy)pyrimidine 3-oxide  
 FS 3D CONCORD  
 MF C12 H22 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)



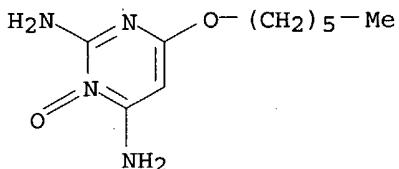
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

REFERENCE 2: 113:59211

L22 ANSWER 19 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-93-8 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-(hexyloxy)-, 3-oxide (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN 2,4-Diamino-6-(hexyloxy)pyrimidine 3-oxide  
 FS 3D CONCORD  
 MF C10 H18 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA Caplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)



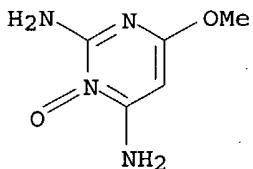
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

REFERENCE 2: 113:59211

L22 ANSWER 20 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-92-7 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-methoxy-, 3-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C5 H8 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA Caplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)



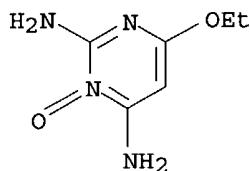
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 113:59211

L22 ANSWER 21 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-91-6 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-ethoxy-, 3-oxide (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN 2,4-Diamino-6-ethoxypyrimidine 3-oxide

FS 3D CONCORD  
 MF C6 H10 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA Caplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)



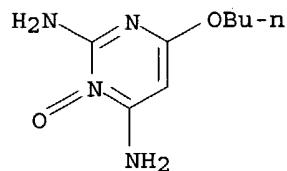
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:114532

REFERENCE 2: 113:59211

L22 ANSWER 22 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 128304-90-5 REGISTRY  
 CN 2,4-Pyrimidinediamine, 6-butoxy-, 3-oxide (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN 2,4-Diamino-6-butoxypyrimidine 3-oxide  
 FS 3D CONCORD  
 MF C8 H14 N4 O2  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA Caplus document type: Journal; Patent  
 RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 RL.NP Roles from non-patents: BIOL (Biological study); PRP (Properties); USES (Uses)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

5 REFERENCES IN FILE CA (1907 TO DATE)  
 5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:284387

REFERENCE 2: 125:104289

REFERENCE 3: 117:137681

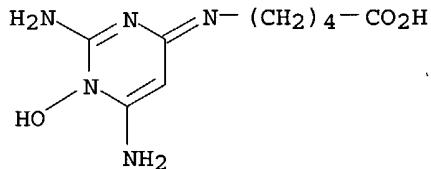
REFERENCE 4: 115:114532

REFERENCE 5: 113:59211

L22 ANSWER 23 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 111180-30-4 REGISTRY  
 CN L-Cysteine, S-(carboxymethyl)-, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoate (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Pentanoic acid, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]-, compd. with S-(carboxymethyl)-L-cysteine (1:1) (9CI)  
 FS STEREOSEARCH  
 MF C9 H15 N5 O3 . C5 H9 N 04 S  
 SR CA  
 LC STN Files: CA, CAPLUS  
 DT.CA CPlus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

CM 1

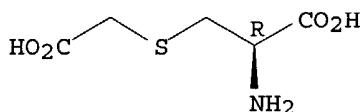
CRN 111152-84-2  
 CMF C9 H15 N5 O3



CM 2

CRN 638-23-3  
 CMF C5 H9 N 04 S

Absolute stereochemistry.



3 REFERENCES IN FILE CA (1907 TO DATE)  
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 109:93038

REFERENCE 2: 108:118712

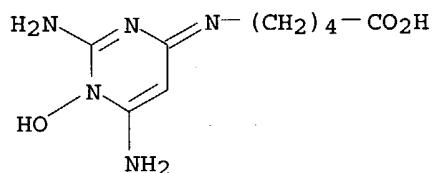
REFERENCE 3: 107:204911

L22 ANSWER 24 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 111152-87-5 REGISTRY  
 CN Glycine, N-[2-(benzoylthio)-1-oxopropyl]-, compd. with 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoic acid (1:1) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Pentanoic acid, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]-, compd. with N-[2-(benzoylthio)-1-oxopropyl]glycine (1:1) (9CI)

MF C12 H13 N O4 S . C9 H15 N5 O3  
 SR CA  
 LC STN Files: CA, CAPLUS  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

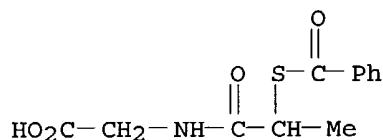
CM 1

CRN 111152-84-2  
 CMF C9 H15 N5 O3



CM 2

CRN 6183-01-3  
 CMF C12 H13 N O4 S



3 REFERENCES IN FILE CA (1907 TO DATE)  
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 109:93038

REFERENCE 2: 108:118712

REFERENCE 3: 107:204911

L22 ANSWER 25 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN

RN 111152-86-4 REGISTRY

CN Benzoic acid, 2-mercaptop-, compd. with 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]pentanoic acid (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Pentanoic acid, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]-, mono(2-mercaptopbenzoate) (salt) (9CI)

MF C9 H15 N5 O3 . C7 H6 O2 S

SR CA

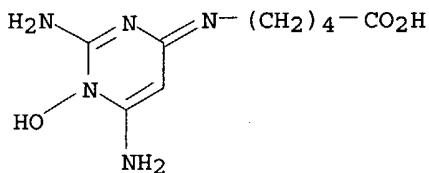
LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Patent

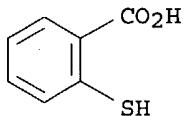
RL.P Roles from patents: PREP (Preparation)

CM 1

CRN 111152-84-2  
 CMF C9 H15 N5 O3



CM 2

CRN 147-93-3  
CMF C7 H6 O2 S3 REFERENCES IN FILE CA (1907 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 109:93038

REFERENCE 2: 108:118712

REFERENCE 3: 107:204911

L22 ANSWER 26 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN

RN 111152-85-3 REGISTRY

CN L-Cysteine, N-acetyl-, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)aminolpentanoate (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Pentanoic acid, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]-, compd. with N-acetyl-L-cysteine (1:1) (9CI)

FS STEREOSEARCH

MF C9 H15 N5 O3 . C5 H9 N O3 S

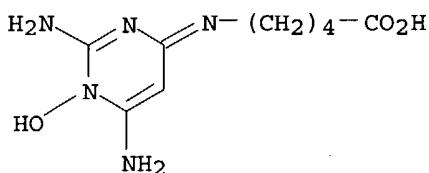
SR CA

LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Patent

RL.P Roles from patents: PREP (Preparation)

CM 1

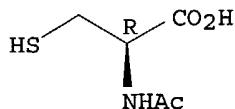
CRN 111152-84-2  
CMF C9 H15 N5 O3

CM 2

CRN 616-91-1

CMF C5 H9 N O3 S

Absolute stereochemistry.



3 REFERENCES IN FILE CA (1907 TO DATE)  
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 109:93038

REFERENCE 2: 108:118712

REFERENCE 3: 107:204911

L22 ANSWER 27 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN

RN 111152-84-2 REGISTRY

CN Pentanoic acid, 5-[(6-amino-1,2-dihydro-1-hydroxy-2-imino-4-pyrimidinyl)amino]- (9CI) (CA INDEX NAME)

FS 3D CONCORD

MF C9 H15 N5 O3

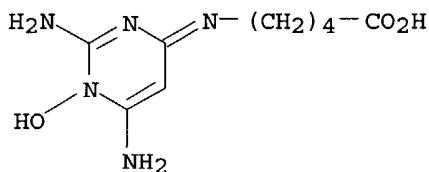
CI COM

SR CA

LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Patent

RL.P Roles from patents: PREP (Preparation)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 109:93038

REFERENCE 2: 107:204911

L22 ANSWER 28 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN

RN 91481-94-6 REGISTRY

CN 2,4-Pyrimidinediamine, 5-ethyl-, 3-oxide (9CI) (CA INDEX NAME)

FS 3D CONCORD

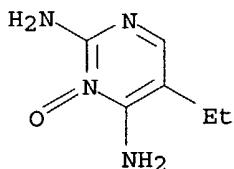
MF C6 H10 N4 O

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA CAplus document type: Journal; Patent

RL.P Roles from patents: PREP (Preparation)

RL.NP Roles from non-patents: PRP (Properties)



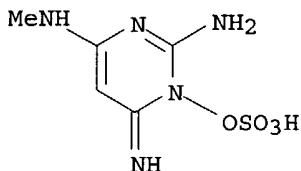
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 116:221322

REFERENCE 2: 101:90302

L22 ANSWER 29 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 87190-06-5 REGISTRY  
 CN 2,4-Pyrimidinediamine, 1,6-dihydro-6-imino-N4-methyl-1-(sulfooxy)- (9CI)  
 (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C5 H9 N5 O4 S  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, MEDLINE  
 (\*File contains numerically searchable property data)  
 DT.CA CAplus document type: Journal  
 RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation);  
 USES (Uses)

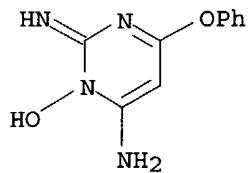


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

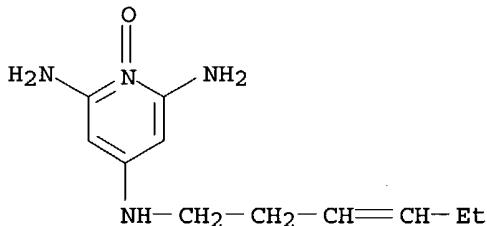
REFERENCE 1: 99:194922

L22 ANSWER 30 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 84370-86-5 REGISTRY  
 CN 4-Pyrimidinamine, 2,3-dihydro-3-hydroxy-2-imino-6-phenoxy- (9CI) (CA  
 INDEX NAME)  
 FS 3D CONCORD  
 MF C10 H10 N4 O2  
 SR European Union (EU)  
 LC STN Files: CHEMLIST  
 Other Sources: EINECS\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L22 ANSWER 31 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 80142-91-2 REGISTRY  
 CN 2,4,6-Pyridinetriamine, N4-3-hexenyl-, 1-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C11 H18 N4 O  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: RACT (Reactant or reagent)

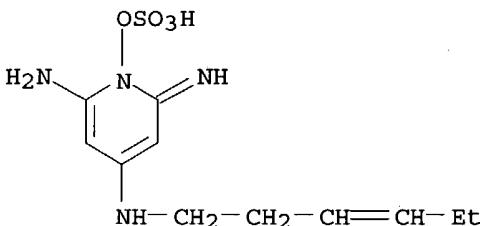


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 96:20113

L22 ANSWER 32 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 80142-90-1 REGISTRY  
 CN 2,4-Pyridinediamine, N4-3-hexenyl-1,6-dihydro-6-imino-1-(sulfooxy)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C11 H18 N4 O4 S  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

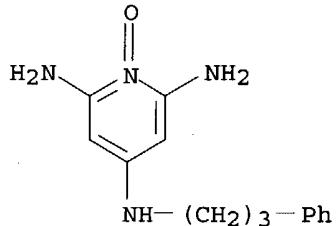


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 96:20113

L22 ANSWER 33 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 80142-89-8 REGISTRY  
 CN 2,4,6-Pyridinetriamine, N4-(3-phenylpropyl)-, 1-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C14 H18 N4 O  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: RACT (Reactant or reagent)

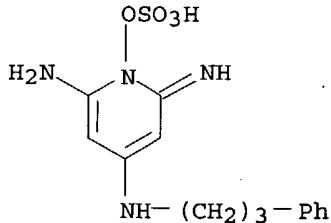


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 96:20113

L22 ANSWER 34 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 80142-88-7 REGISTRY  
 CN 2,4-Pyridinediamine, 1,6-dihydro-6-imino-N4-(3-phenylpropyl)-1-(sulfooxy)- (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C14 H18 N4 O4 S  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)

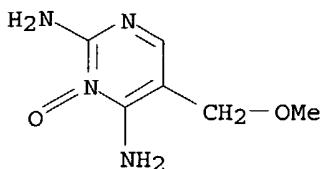


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 96:20113

L22 ANSWER 35 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 74638-77-0 REGISTRY  
 CN 2,4-Pyrimidinediamine, 5-(methoxymethyl)-, 3-oxide (9CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C6 H10 N4 O2  
 LC STN Files: CA, CAPLUS  
 DT.CA CAplus document type: Journal  
 RL.NP Roles from non-patents: PRP (Properties)

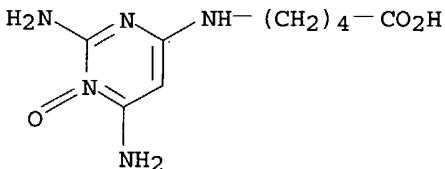


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 93:94356

L22 ANSWER 36 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 56828-41-2 REGISTRY  
 CN Pentanoic acid, 5-[(2,6-diamino-1-oxido-4-pyrimidinyl)amino]- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Pentanoic acid, 5-[(2,6-diamino-4-pyrimidinyl)amino]-, N-oxide  
 OTHER NAMES:  
 CN 2,4-Diamino-6-(4'-carboxy-n-butylamino)pyrimidine 3-oxide  
 FS 3D CONCORD  
 MF C9 H15 N5 O3  
 LC STN Files: CA, CAPLUS  
 DT.CA CAplus document type: Journal  
 RL.NP Roles from non-patents: BIOL (Biological study)



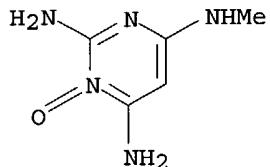
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1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 83:188142

L22 ANSWER 37 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 55973-02-9 REGISTRY  
 CN 2,4,6-Pyrimidinetriamine, N4-methyl-, 1-oxide (9CI) (CA INDEX NAME)  
 OTHER NAMES:

CN 2,4-Diamino-6-(methylamino)pyrimidine 3-oxide  
 CN U 46313E  
 FS 3D CONCORD  
 DR 157141-11-2  
 MF C5 H9 N5 O  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)  
 DT.CA Cplus document type: Journal; Patent  
 RL.P Roles from patents: PREP (Preparation)  
 RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation);  
 RACT (Reactant or reagent)

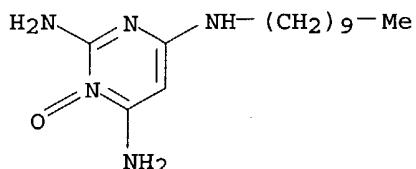


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

5 REFERENCES IN FILE CA (1907 TO DATE)  
 5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 121:124533  
 REFERENCE 2: 99:194922  
 REFERENCE 3: 84:59536  
 REFERENCE 4: 83:193211  
 REFERENCE 5: 83:72150

L22 ANSWER 38 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 55921-56-7 REGISTRY  
 CN 2,4,6-Pyrimidinetriamine, N4-decyl-, 1-oxide (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN 2,4-Diamino-6-(decylamino)pyrimidine 3-oxide  
 FS 3D CONCORD  
 MF C14 H27 N5 O  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)  
 DT.CA Cplus document type: Journal; Patent  
 RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES  
 (Uses)  
 RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

4 REFERENCES IN FILE CA (1907 TO DATE)  
 4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:92609

REFERENCE 2: 84:59536

REFERENCE 3: 83:193211

REFERENCE 4: 83:72150

L22 ANSWER 39 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN

RN 55921-55-6 REGISTRY

CN 2,4,6-Pyrimidinetriamine, N4-butyl-, 1-oxide (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 2,4-Diamino-6-(butylamino)pyrimidine 3-oxide

FS 3D CONCORD

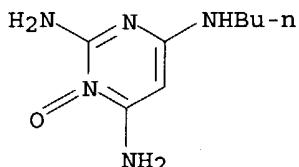
MF C8 H15 N5 O

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

DT.CA Cplus document type: Journal; Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation)

RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

4 REFERENCES IN FILE CA (1907 TO DATE)  
 4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 121:170582

REFERENCE 2: 84:59536

REFERENCE 3: 83:193211

REFERENCE 4: 83:72150

L22 ANSWER 40 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN

RN 55921-54-5 REGISTRY

CN 2,4,6-Pyrimidinetriamine, N4-ethyl-, 1-oxide (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 2,4-Diamino-6-(ethylamino)pyrimidine 3-oxide

FS 3D CONCORD

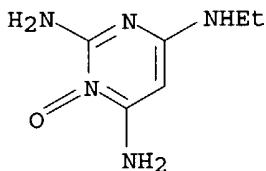
MF C6 H11 N5 O

LC STN Files: BEILSTEIN\*, CA, CAPLUS, CASREACT, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

DT.CA Cplus document type: Journal; Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation)

RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent)



## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

6 REFERENCES IN FILE CA (1907 TO DATE)  
 6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 121:170582

REFERENCE 2: 101:90302

REFERENCE 3: 92:128848

REFERENCE 4: 84:59536

REFERENCE 5: 83:193211

REFERENCE 6: 83:72150

L22 ANSWER 41 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN

RN 30680-04-7 REGISTRY

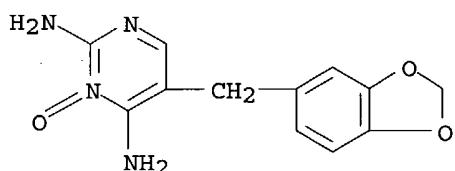
CN Pyrimidine, 2,4-diamino-5-piperonyl-, 3-oxide, hydrochloride (8CI) (CA INDEX NAME)

MF C12 H12 N4 O3 . x Cl H

LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: PREP (Preparation)



● x HCl

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 74:76443

L22 ANSWER 42 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN

RN 17827-88-2 REGISTRY

CN Pyridine, 2,6-diamino-4-butoxy-, 1-oxide (8CI) (CA INDEX NAME)

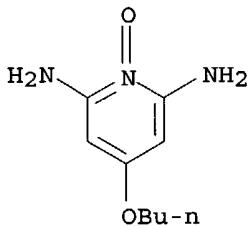
FS 3D CONCORD

MF C9 H15 N3 O2

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB  
 (\*File contains numerically searchable property data)

DT.CA CAplus document type: Patent

RL.P Roles from patents: PREP (Preparation)

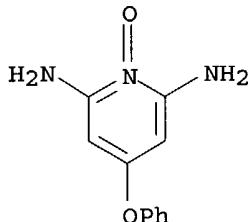


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1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 68:68890

L22 ANSWER 43 OF 43 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 17792-36-8 REGISTRY  
 CN Pyridine, 2,6-diamino-4-phenoxy-, 1-oxide (8CI) (CA INDEX NAME)  
 FS 3D CONCORD  
 MF C11 H11 N3 O2  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB  
 (\*File contains numerically searchable property data)  
 DT.CA CAplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 68:68890

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